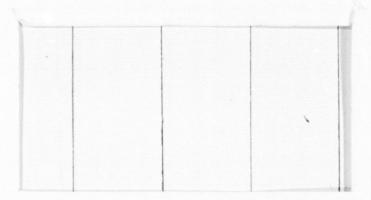
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(NASA-CR-149989) A TRANSONIC AND SURPERSONIC INVESTIGATION OF JET EXHAUST PLUME EFFECTS ON THE AFTERBODY AND BASE PRESSURES OF A BODY OF REVOLUTION (Lockheed Missiles and Space Co.) 735 p HC \$18.75

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A TRANSONIC AND SUPERSONIC INVESTIGATION OF JET EXHAUST PLUME EFFECTS ON THE AFTERBODY AND BASE PRESSURES OF A BODY OF REVOLUTION

March 1974

Contract NAS8 -26801

Prepared for National Aeronautics and Space Administration Marshall Space Flight Center, Alabama 35812

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#### FOREWORD

This report presents the results of a plume technology wind tunnel test in the NASA-MSFC 14 x 14-Inch Trisonic Wind Tunnel. The test was conducted by personnel of the Lockheed-Huntsville Research & Engineering Center for the Aero-Astrodynamics Laboratory of the Marshall Space Flight Center under Contract NAS8-26801. The MSFC technical monitor for this study is Mr. C. Dale Andrews, S&E-AERO-AAE. This study was a coordinated effort with the Engineering Analysis Division of the Johnson Space Center under the auspices of Mr. Barney B. Roberts.

#### SUMMARY

An experimental aerodynamic investigation was conducted to provide data for studies to determine the criteria for simulating rocket engine plume-induced aerodynamic effects in the wind tunnel using a simulated gaseous plume. Model surface and base pressure data were obtained in the presence of both a simulated and a prototype gaseous plume for a matrix of plume properties to enable investigators to determine the parameters that correlate the simulated and prototype plume-induced data. This report describes the details of the test program and presents in plotted and tabular form the data that were obtained.

The test program was conducted in the Marshall Space Flight Center's  $14 \times 14$ -inch trisonic wind tunnel using two models, the first being a strut mounted cone-ogive-cylinder model with a fineness ratio of 9. Model exterior pressures, model plenum chamber and nozzle performance data were obtained at Mach numbers of 0.9, 1.2, 1.46 and 3.48. The exhaust plume was generated by using air as the simulant gas, or Freon-14 (CF<sub>4</sub>) as the prototype gas, over a chamber pressure range from 0 to 2000 psia and a total temperature range from 50 to  $600^{\circ}$ F.

Three single nozzles and one triple nozzle were used for the air portion of the test and one single and one triple nozzle were used for the CF<sub>4</sub> testing. All of the nozzles were conical and ranged in area ratio from 3.5 to 8.0 with wall angles from 15 to 35 degrees. The location of each nozzle exit plane with respect to the model base and the ratio of each type (single or triple) nozzle exit diameter to the base diameter was held constant.

In addition to the strut model, a sting-mounted model of the same configuration was also tested prior to the gaseous plume test to assess strut and blockage effects. Number 60 carborundum grit was used on each model to ensure a turbulent boundary layer. All the testing was conducted at a zero-degree angle of attack.

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## 1

## Section 1 INTRODUCTION

The interaction of the Space Shuttle's rocket engine exhaust plume and external flow field can affect performance and flying qualities as a result of plume-induced effects in the base region and boundary layer separation. To avoid potential problems in the prototype vehicle, it is desirable to be aware of the plume-induced effects during the design phase. These effects can be determined in the wind tunnel by testing the Shuttle vehicle in the presence of the rocket exhaust plume. Since it is not practical or economical to test the full-scale vehicle and engines, a scaled version of the vehicle with a simulated gaseous plume must be tested. To have a high degree of confidence in the test results, the simulated plume-flowfield interaction phenomena must be the same as that of the prototype plume. This requires a duplication of the prototype plume properties which govern the interaction. At the present time plume simulation technology is inadequate for predicting these governing properties. This inadequacy is primarily due to the lack of sufficient and appropriate simulated and prototype plume-induced aerodynamic data which can be analyzed to establish the correlating parameters. To alleviate this deficiency a wind tunnel test program was conducted in which extensive plumeinduced aerodynamic data were obtained for both simulated and prototype gaseous plumes.

Model surface and base pressures were obtained in the presence of simulated and prototype plumes for a matrix of nozzle exhaust total pressures and temperatures as a function of freestream conditions and nozzle geometry.

Air was used as the simulant gas and  $CF_4$  as the prototype gas. Air was chosen because of its ready availability at most wind tunnel facilities and its economic advantage over other simulant gases. Carbon tetrafluoride  $(CF_4)$  was selected as the prototype gas because the variation of its thermodynamic properties can be made to closely approximate those of a typical

rocket engine exhaust flow as shown in Fig. 1. Reference 1 contains a detailed description of the thermodynamic properties of  $\mathrm{CF}_4$  from the Reddick-Quang equation of state and the thermodynamic properties of air as calculated from the Beattie-Bridgeman equation of state. In addition, Ref. 1 presents the computed plume initial boundary angle and the viscous mixing parameter " $\rho$ u" evaluated at the plume boundary for the nozzles tested during the program.

The test program consisted of three phases: (1) investigating the required grit size to ensure a turbulent boundary layer, blockage effects and strut and wall interference effects; (2) calibrating all nozzles at several chamber pressures and temperatures to qualify the nozzle hardware and to investigate real gas and condensation effects; and (3) generating nozzle exhaust flow to investigate plume-induced effects on the model surface and base pressures for both simulated and gaseous plumes.

The basic model for this investigation consisted of a strut-mounted cone-ogive-cylinder body with four different nozzle configurations to flow air and two nozzle configurations to flow CF<sub>4</sub>. A sting mounted model of the same configuration was also tested to assess strut interference effects. A heater and gas supply system was used to control the temperature and pressure of the working fluid. Chamber pressures were varied from 0 to 2000 psia and chamber temperature from 50 to 600°F. Model surface pressures and nozzle performance data were obtained at Mach numbers of 0.9, 1.2, 1.46 and 3.48 for various chamber conditions at zero degrees angle of attack. Carborundum grit was used to ensure a turbulent boundary layer over the model.

## Section 2 TEST APPARATUS

#### 2.1 TEST FACILITY DESCRIPTION

The test program was conducted in the NASA-MSFC 14-inch trisonic wind tunnel. The facility is an intermittent trisonic blowdown tunnel which exhausts either to a vacuum system or to atmosphere. The tunnel is capable of producing Mach numbers from 0.2 to 2.5 by utilizing a transonic test section and Mach numbers from 2.74 to 4.96 with a supersonic test section. Reynolds numbers per foot of up to 18,000,000 may be obtained depending upon the test Mach number and tunnel limits. A more detailed description of the facility is presented in the tunnel technical handbook (Ref. 2).

#### 2.2 HEATER DESCRIPTION

A high-pressure gas system capable of supplying gas heated to a temperature of 600°F and 2000 psia was used for this test program. The heater is capable of a gas flow rate of up to 4 lb/sec for a period of 10 sec. The system is designed with three high-pressure storage tanks fabricated from heavy wall tubing. The first tank in the series circuit (cold tank) is a 4.2 cu ft tank used to accumulate gas from either small supply cylinders or the facility air system at low pressures. Two pneumatically driven compressors pump the gas to a pressure of 4000 psia in this tank. The maximum tank pressure is controlled by a relief valve set at 4500 psi and a 4600 psi rupture disk. The output of this vessel is pneumatically regulated and is used as the controlled supply for the second tank.

The second tank (hot tank) provides 6.9 cu ft of gas storage which can be electrically heated to supply the test requirements for jet exhaust simulation. The maximum pressure in the tank is controlled by a relief valve set at 2200 psi and a 2500 psi rupture disk. Maximum temperature of the clampon heaters is controlled by a 765°F sensing element.

To provide system flexibility and to prevent the loss of expensive gas, a 2.2 cu ft relief tank is provided. Gas can be removed from the hot tank and stored in the relief tank for later use if the hot tank is overcharged. The two compressors are also able to pump from the relief tank to the cold tank.

The output of the system is opened by pushing the CF<sub>4</sub> "discharge control valve" button. This activates the solenoid valve in a pneumatic circuit to move the actuator on a discharge valve. During the testing phase, the discharge button was synchronized with the tunnel data acquisition system. The discharge pressure of the system is controlled by setting a pressure with the "dome regulator control" prior to pushing the discharge button. Figure 2 is a summary schematic drawing of the heater.

A one-inch o.d. heated and insulated steel pipe was used to connect the heater to the model. The pipe was attached to the heater discharge valve and routed through the side of the tunnel, up through the tunnel floor and attached to the sting.

A more detailed description of the heater and its operating characteristics is presented in Ref. 3.

#### 2.3 MODEL DESCRIPTION

#### Strut Mounted Model

The model for Phases 2 and 3 of the test consisted of a strut-mounted cone-ogive-cylinder body (Fig. 3) with six interchangeable nozzles. The model was designed and fabricated by Micro Craft Inc., Tullahoma, Tenn., (Space Shuttle Plume Technology Model, assembly drawing number LD-520957). The body is made up of the nose section, midbody and afterbody. The midbody is rigidly attached to the strut and is composed of the nozzle plenum chamber and upper and lower removable skin panels which cover the plenum chamber. The nose section is attached to the midbody at the forward bulkhead and the

afterbody at the aft bulkhead. Figure 4 shows the cone-ogive-cylinder model installed in the wind tunnel and Fig. 5 shows typical single and triple nozzles.

The afterbodies for the single nozzle configurations are single pieces which attach at the aft bulkhead. The afterbodies for the triple nozzle configurations are in two pieces; a base of which the nozzles are an integral part and an adapter which fits between the base and the aft bulkhead. The same adapter was used for all triple nozzle configurations. This required routing the tubes in the base through the adapter prior to the model installation.

A metal O-ring was used to seal the interface between the aft bulkhead and the single nozzle afterbodies or triple nozzle adapter. Also three metal O-rings were used to seal the interface between the triple nozzle adapter and bases. Table 1 presents the pertinent geometrical information defining the respective nozzle configurations.

The model support consists of the strut, sting and sting adapter as shown in Fig. 6. The strut and sting shown in Fig. 3 are used not only to support the model but also to supply the simulant gas to the model. The pressure tubing was routed through the leading and trailing edges of the strut and along the lower and upper surfaces of the sting. The sting adapter was rigidly attached to the sting and was fitted into the tunnel main chuck.

Forty-nine static pressure orifices are located on the model and are distributed as follows:

- Nose 5Midbody 19
- Afterbody 25

The model plenum chamber is equipped with a total pressure probe, a static pressure orifice and a total temperature probe. In addition, five thermocouples were used to measure skin temperature at various points on the model. The location and numbering system for all of the pressure orifices and thermocouples are shown in Figs. 7a, 7b and 7c.

Nozzle pressure tubes 44, 45, 46 and 49 for the triple nozzle configurations and tubes 44, 45 and 48 for the single nozzle configurations were routed external to the model. These tubes were used only during the calibration phase of the test after which they were removed and plugged. The remaining nozzle tubes (47 and 48 for the triple and 46 and 47 for the single nozzle configurations) and the afterbody tubes (17 through 22, 29 through 34 and 37 through 43) are routed internal to the model and strut. The nozzle tubes were hard tubing all the way from the nozzle to outside the tunnel. The afterbody tubes were joined with vinyl tubing in the nose section (Fig. 3). For each nozzle configuration change the nozzle and afterbody tubes had to be disconnected and removed.

Scanivalves were used to record the model surface static pressures (Nos. 1 through 21 and 23 through 38) and base static pressures (Nos. 39 through 43). A total of 42 static pressures were measured with eight scanivalves. The pressure tubes were attached to the scanivalves in the order specified in Table 2. The nozzle internal static pressures (Nos. 44 through 48 for the single nozzles and 44 through 49 for the triple nozzles), the plenum chamber total (No. 51) and static (No. 50) pressures and model static pressure orifice No. 22 were recorded with individual transducers. Also instrumentation was provided to record the thermocouple output in the plenum chamber and on the surface of the model. The number and type of instrumentation used during Phases 2 and 3 are shown in Tables 3 and 4, respectively.

For Phase 1 of the test, the strut-mounted model was fitted with an afterbody that has a simulated rocket nozzle and an extension aft of the nozzle exit plane for attaching solid plumes. An installation photograph of this configuration is shown in Fig. 8. Figure 9 shows the same configuration with a solid plume installed.

In this configuration the model has 24 static pressure orifices. Orifices 1 through 22 are along the top centerline of the model and in the same locations as Orifices 1 through 22 in Fig. 7a. The remaining two orifices are located on the base and are numbered and located as shown on the next page.

Orifice	Radius	φ
No.	(in.)	(deg)
40	.39	180
43	.63	180

Four scanivalves were used to measure the 24 static pressures. The scanivalve array and the number and type of instrumentation used in Phase 1 are shown in Tables 5 and 6, respectively.

#### Sting-Mounted Model

The sting-mounted model consists of the same cone-ogive-cylinder body as the strut model. This model has a simulated rocket nozzle which is an integral part of the sting. Solid plumes can be attached to the sting at the exit plane of the nozzle. A sketch of the sting model is shown in Fig. 10.

This model also has 22 pressure orifices on the upper centerline and 2 orifices on the base. The orifices have the same numbering system and location as the strut configuration used in Phase 1.

Two solid plumes were used with both the sting and strut-mounted models. Dimensions of the solid plumes are given in Fig. 11. Figure 9 shows plume 2 installed on the strut model.

# Section 3 TEST PROCEDURE AND CONDITIONS

The test was conducted at Mach numbers of 0.9, 1.2, 1.46 and 3.48 with the model at a zero-degree angle of attack. Nominal freestream conditions for the respective Mach numbers are given in Table 7. Model chamber pressures ranged from 0 to 2000 psia and chamber temperatures from 50 to 600°F.

The test program consisted of three separate phases.

#### Phase 1

Phase I established the state of the boundary layer over the model for specified Mach and Reynolds number combinations to determine the size of carborundum grit required to ensure a turbulent boundary layer for all free-stream test conditions. Shadowgraphs of the sting model were obtained with and without grit to establish the boundary layer state.

The sting and strut models were tested with and without the solid plumes to assess strut interference effects and blockage effects on the model surface pressure distributions. These data were obtained with the porous walls and with the solid walls to determine wall effects. A static probe was used in conjunction with the models to determine blockage effects on the freestream Mach number. Shadowgraphs were obtained for all test conditions to supplement the pressure data.

#### Phase 2

Phase 2 consisted of calibrating five of the six nozzle configurations at quiescent conditions. The area ratio 3.5,  $\theta_{lip} = 35$  degree nozzle was not calibrated because it was built from the A/A\* = 6.5,  $\theta_{lip} = 35$  degree nozzle

from which all but one of the nozzle static pressure orifices had been permanently removed subsequent to its calibration. At the completion of Phasel, nozzles were installed in the model and connected to the high pressure supply source. Nozzle flow was initiated and data recorded simultaneously by means of the nozzle static pressure taps, plenum chamber instrumentation, test section static pressure instrumentation and schlieren photographs.

The test section pressure during calibration was on the order of 0.5 to 1.5 psia.

#### Phase 3

After calibration of each nozzle, Phase 3 was initiated for that particular nozzle. The nozzle pressure tubes external to the model were removed and plugged and a 0.1-inch band of carborundum grit was placed approximately one inch from the nose of the model. During this phase the model surface and base pressure data were recorded. The various nozzles were tested for the specified Mach numbers and freestream conditions of Table 7 with the following parametric variations: nozzle area ratio and wall angle, chamber pressure and temperature, and simulant gas. Model surface and base static pressures, freestream conditions, plenum chamber conditions and nozzle conditions were recorded for each run. Representative schlieren photographs were obtained for Mach numbers of 0.9, 1.2 and 1.46 and schlierens of each run were taken at a Mach number of 3.48. A more detailed description of the test procedure is available in Ref. 4.

## Section 4 DATA ACCURACY

The estimated accuracy of the data is as follows:

#### Tunnel Conditions

Freestream total pressure ±0.05 psia Freestream static pressure ±0.015 psia

#### Model Surface and Base Pressures

 $M_{\infty} = 0.9$ , 1.2 and 1.46  $\pm 0.113$  psia  $M_{\infty} = 3.48$   $\pm 0.038$  psia

#### Nozzle Internal Pressures

Air Single Nozzle,  $A/A^* = 6.5$ , all nozzle orifices  $\pm 0.227$  psia Air Single Nozzle,  $A/A^* = 3.5$ , all nozzle orifices  $\pm 1.13$  psia Air Triple Nozzle,  $A/A^* = 4.0$ , all nozzle orifices  $\pm 1.13$  psia CF<sub>4</sub> Single Nozzle,  $A/A^* = 8.0$ , orifice  $44 \sim \pm 3.75$  psia, orifices 45,46 and  $47 \sim \pm 0.227$  psia, orifice  $48 \sim \pm 1.125$  psia CF<sub>4</sub> Triple Nozzle,  $A/A^* = 8.0$ , all nozzle orifices  $\pm 0.227$  psia

#### Model Plenum Chamber Conditions

Total and static pressures  $\pm 18.75$  psia Total temperature  $\pm 2^{\circ}$ F

## Section 5 DISCUSSION AND DATA PRESENTATION

This section presents typical data resulting from the three phases of the test program and where necessary (such as Phase 1 where it was required to establish possible interference effects) discusses the results.

#### 5.1 PHASE 1

Phase 1 of the test was conducted to determine the grit size required to generate a turbulent boundary layer over the model and to determine possible interference effects.

Since the boundary layer over most flight vehicles is predominantly turbulent for the Mach numbers investigated, it was decided to fix the boundary layer type for all test conditions in Phase 3.

From the methods of Ref. 5, it was determined that No. 60 grit would be adequate to ensure a turbulent boundary layer for all the Mach and Reynolds number combinations of Table 7. To confirm this, shadowgraphs were taken of the sting mounted model with and without grit on the model. A 0.1-inch band of the No. 60 grit was placed approximately one inch from the model nose. The shadowgraphs indicated for all Mach numbers that without grit, boundary layer transition occurred on the cylinder portion of the model as shown in Fig. 12 for Mach 1.46. With the No. 60 grit on the model transition occurred at or near the transition strip for all Mach numbers, as shown in Fig. 13 for Mach 1.46.

The strut interference effects were assessed by comparing sting and strut model pressure data for all Mach numbers. Sting and strut model surface pressure are compared at  $\phi = 0$  deg for Mach numbers of 0.9, 1.2,

1.46 and 3.48 in Figs. 14 through 17. The comparisons indicate that strut interference generally decreases the local static pressures of the strut model at certain points along the afterbody depending on the Mach number. The decrease in the static pressure appears to move farther aft on the model as Mach number is increased until the interference becomes negligible at Mach 3.48. This is probably due to the decrease in the strut bow shock angle as Mach number is increased.

A comparison of the strut model pressure distribution for radial locations of 0, 60 and 180 deg is shown in Figs. 18 through 21. For Mach numbers of 0.9 and 1.2 the pressures at  $\phi = 0$ , 60 and 180 deg compare favorably near the base of the model but differ to some extent upstream. For Mach numbers of 1.46 and 3.48 the pressures at 60 and 180 deg are generally significantly different from those at 0 deg.

Also shown in Figs. 18 through 21 are comparisons of base pressures as a function of angular orientation. At each Mach number the base pressures generally agree with only slight variation.

The strut and model frontal area with respect to the tunnel test section area (196 in<sup>2</sup>) represents a blockage of 2.8%. For Mach numbers of 0.9, 1.2 and 1.46 the strut model blockage exceeds the preferred limit of 2.5%. When the model is tested with nozzle flow, the blockage ratio for high chamber pressures may increase to an even greater value. Consequently, to assess the effects of blockage, the sting and strut mounted models were tested with two sizes of solid plumes and compared to the no plume data. Blockage for the models and plume-model combinations are shown in Table 8. The overall dimensions of the plumes are given in Fig. 11.

Figures 22 through 24 show the solid plume effects on the model surface pressures. As the plume size is increased, the plume-induced separation moves forward on the body. Upstream of the separation point the strut model data for all cases agree very well. Pressure data for the sting model

and plume 2 are also shown on the figures. These data compare favorably at Mach 0.9 and 1.2 and vary slightly at Mach 1.46.

To determine the effects of blockage on the freestream Mach number, a static pressure probe was placed approximately 1.5 inches forward of the strut model nose. Probe data were obtained with no plume and plume number 2 at Mach 0.9, 1.2 and 1.46. Figure 25 compares the probe Mach number and the test section Mach number as a function of percent blockage. There are small differences at each Mach number with a maximum deviation of 1.6% at Mach 1.2 and a percent blockage of 2.76. The differences obtained were not considered to be of sufficient magnitude to compromise the test program.

It was originally planned to obtain schlierens and pressure data simultaneously for all runs in Phase 3. This would require using glass instead of porous walls at Mach 0.9, 1.2 and 1.46 where the porous walls are normally used when pressure data are taken. To assess the feasibility of using the glass walls while taking pressure data, the strut model was tested using both the porous and glass walls.

Figures 26 through 28 compare the porous and glass wall data. At Mach 0.9 the data compare well but at Mach 1.2 and 1.46 significant differences are apparent.

Based on the results of Phase 1 the following conclusions were reached concerning the suitability of using the strut model in the 14-inch tunnel:

- 1. Using No. 60 grit, a turbulent boundary layer existed over the model for all test conditions.
- 2. Strut interference effects at  $\phi = 0$  deg were apparent but were not of a sufficient magnitude to jeopardize the test program. The interference effects at 60 and 180 deg were

such that it is recommended that these data not be used for assessing plume induced effects.

- 3. Blockage had no significant effect on the data when the porous walls were used for the transonic testing.
- 4. Only pressure data with porous walls installed should be used for the transonic Mach numbers of 0.9, 1.2 and 1.46. Pressure data obtained with the glass walls should not be used for data analysis at these Mach numbers.

#### 5.2 PHASE 2

Phase 2 of the test was conducted to verify the gasdynamic performance of the various nozzles to be tested, to determine if condensation of the flow was taking place inside the nozzles, and to determine if real gas effects could adequately be accounted for.

Static pressure distributions for each of the nozzles at typical test conditions are presented in Figs. 29 through 34. Preliminary analysis of the nozzle static pressures indicates some discrepancies between the experimental results and inviscid method-of-characteristics calculations. Further analysis will be conducted to resolve this. The findings of the analysis will be presented at a later date. Condensation was possible in the  $A/A^*=6.5$  nozzle for high chamber pressure and low chamber temperature conditions and may have occurred.

Real gas effects were examined by comparing calculated inviscid real gas plume shapes to schlieren photographs for several of the calibration data points. As seen in Figs. 35 and 36 the theory adequately predicts the plume shape, particularly the plume internal shock which is largely unaffected by the viscous mixing at the plume boundary for conditions in which little or no condensation took place.

Figure 37, compared with Fig. 38, demonstrates that the effect of condensation on the plumes internal shock structure and plume boundary is to increase the size of the plume. The increase in size is most probably the result of the exothermic condensation process which results in an increase of

the local static pressure and a reduction of the local Mach number consequently requiring a larger amount of turning to expand to a given freestream static pressure.

Subsequent to the test it was determined that the test section pressure was not correctly recorded for the calibration runs associated with the  $A/A^* = 3.5$ ,  $\theta_{lip} = 25$  deg air nozzle and the  $A/A^* = 8.0$  CF<sub>4</sub> triple nozzle; therefore, no plume shape data are given for these runs. The pressures associated with the model are accurate for these runs and suitable for use in verifying the performance of the nozzle.

Table 9 presents a summary of the calibration runs made for the various nozzle configurations and a detailed run log with any qualifying comments pertinent to each data point is presented in Table 11.

#### 5.3 PHASE 3

Phase 3 consisted of an investigation of the interaction of the model exhaust plume with the flow along the surface of the model and in the base region. This investigation was conducted by varying the following parameters: freestream Mach number, nozzle area ratio, nozzle conical divergence angle, the exhaust total pressure, exhaust total temperature, and the simulant exhaust gas. Mach numbers of 0.9, 1.2, 1.46 and 3.48 were run with the nozzles defined in Table 1. Two simulant exhaust gases were tested, air and CF<sub>4</sub>. All of the testing was conducted at a zero-degree angle of attack.

Measured static pressure distributions along the top surface of the model (180 deg from the support strut) for each nozzle configuration and test Mach number are plotted in Figs. 39 through 71. These plots represent the minimum and maximum chamber pressure and nominal temperature conditions that were tested. If a significant upstream propagation of the base pressure was measured, as in Figs. 47 and 48, the entire set of data for that test condition is presented.

Base pressure distributions  $p_{base}/p_{\infty}$  for a representative base pressure orifice are plotted as a function of  $P_c/p_{\infty}$  for each configuration and nominal chamber temperature in Figs. 72 through 92.

A summary of the non-quiescent runs made for the various configurations is given in Table 10 and a detai'ed run log with any qualifying comments pertinent to each data point is presented in Table 11.

A complete set of the gaseous pressure data obtained during Phases 2 and 3 is presented in tabular form in Appendix A. Appendix B contains a tabular listing of the plume coordinates for each photograph taken during the test.

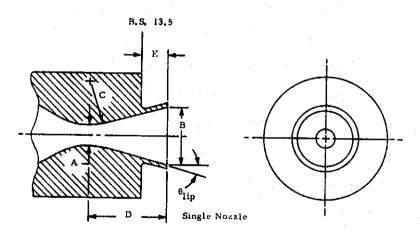
### REFERENCES

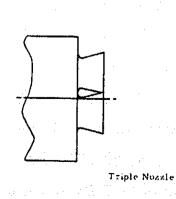
- 1. Baker, L.R., and M.M. Penny, "Plume Technology Experimental Program Pretest Analysis," LMSC-HREC TM D306910, Lockheed Missiles & Space Company, Huntsville, Ala., October 1973.
- 2. Simon, Erwin, "The George C. Marshall Space Flight Center's 14 x 14-Inch Trisonic Wind Tunnel Technical Handbook," NASA TM-X-64624, November 1971.
- 3. Cooper, C.E., "Updated Operational Procedures of the NASA-MSFC High Pressure Gas Heating System," TN D306709, Lockheed Missiles & Space Company, Huntsville, Ala., (in preparation).
- 4. Andrews, C. Donald, and C.E. Cooper, "Pretest Report for a Plume Technology Test Program in the MSFC 14x14-Inch Trisonic Wind Tunnel," LMSC-HREC TM D306631, Lockheed Missiles & Space Company, Huntsville, Ala., May 1973.
- 5. Braslow, A. L., and E. C. Knox, "Simplified Method for Determination of Critical Height of Distributed Roughness Particles for Boundary Layer Transition at Mach Numbers from 0 to 5," NACA TN 4363, September 1968.

Table i PLUME TECHNOLOGY TEST MODEL NOZZ

Nozzle No.	Gas	Nozzle Config.	A/A* (in.)	θ <sub>lip</sub> (deg)	A (in.)	B (in.)	C (in.)	D (in.)	E (in.)
1	CF4	Single	(8.0) <sup>+</sup> 7.90	(15) 14,92	0.247	0.695	(,750)	0.978	(.312)
<u> </u>	Air	Single	(3.5) <sup>+</sup> 3.51	(25) 23.22	0.372	0.698	(.750)	0.513	(.312)
4	Air	Single	(6.5) <sup>+</sup> 6.52	(35) 34.77	0.273	0.697	(.500)	0.471	(.312)
4A	Air	Single*	(3.5) <sup>†</sup> 3.45	(35) 34.77	0.375	0.697	(.188)	0.282	(.312)
5	CF <sub>4</sub>	Triple Nozzle A Nozzle B Nozzle C	(8.0) <sup>†</sup> 8.21 8.17 8.05	(15) 15.10 15.12 15.08	0.143 0.141 0.143	0.404 0.403 0.404	(.375)	0.523 0.518 0.525	(.312)
6	Air	Triple Nozzle A Nozzle B Nozzle C	(4.0) <sup>†</sup> 4.06 4.01 4.03	(25) 24.85 24.58 24.83	0.200 0.201 0,199	0.404 0.402 0.400	(.400)	0.322 0.328 0.335	(.312)

\*Built during test from a A/A\* = 6.5,  $\theta_{\text{lip}} = 35^{\circ}$  air single nozzle †(design dimension)
Actual Dimension





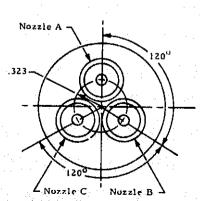
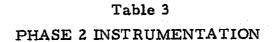


Table 2
PLUME TECHNOLOGY TEST SCANIVALVE ARRAY
FOR PHASE 3

Scani- valve No. Port No.	1	2	3	4	5	6	7	8
0	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref
1	5	6	11	16	23	29	34	<b>3</b> 5
2	4	7	12	17	. 24	30	41	36
3	3	8	13	18	25	31	42	37
4	2	9	14	19	26	32	39	38
5	1	10	15	20	27	33	40	43
6				21	28			

<sup>\*</sup>This corresponds to the frame number of the data presented in Appendix A.



#### Pressure Instrumentation

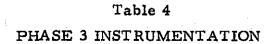
<u> </u>			Transdu	cer Pressure	Range for Ea	ch Nozzle Conf	iguration
Description	Orifice No.	No. of Transducers#	A/A* = 8.0 0 lip = 150 Single	A/A* = 3.5 θ <sub>lip</sub> = 250 Single	A/A* = 6.5 the contraction of the contraction of t	A/A* = 8.0 0 <sub>lip</sub> = 15° Triple	A/A* = 4.0 the state of the st
Nozzle Static Pres.	44	1	0-500 psia	0-150 psia	<u>+</u> 30 psid	<u>+</u> 30 psid	0-150 psia
1	45	1 1	<u>+</u> 30 psid		i	:	
	46	1	<u>+</u> 30 psid	ŀ			
	47	1	<u>+</u> 30 psid	l		1 1	1
*	48	1	0-150 psia	0-150 psia	<u>+</u> 30 psid		ľ
Nozzle Static Pres.	49	1		<del></del>		+30 psid	0-150 psia
Chamber Static Pres	50	1	0-2500 psia	0-2500 psia	0-2500 psia	0-2500 psia	0-2500 ps
Chamber Total Pres.	51	1	0-2500 psia	0-2500 psia	0-2500 psia	0-2500 psia	02500 psi

<sup>&</sup>quot;All transducers were Stathams

## Temperature Instrumentation

Description	Thermocouple No.	No. of Thermocouples	Type of Thermocouple	Approximate Temp. Range (°F)
Model Surface Static Temp.	TCl	<b>!</b>	Chromel-Alumel	50-650
	TC2 TC3 TC4	.1		
Model Surface Static Temp. Chamber Total Temp.	TC5*			50-650
Sting Static Temp. Feeder Pipe Temp.	TC7 TC8	= 1 1	Chromel-Alumel	50-1000 50-1000

Used only during runs 101 through 114.



#### Pressure Instrumentation

Description	Orifice No.	No. of Scanivalves	No. of Transducers*	Transducer Pressure Range for Each Mach Number			
				M = 0.9, 1.2, 1.46	M = 3.48		
Model Static Pres.	22 1 - 5	<del></del>	1 1	<u>+</u> 15 psid	0-5 psia 1		
	6-10 11-15	1	1				
	16-21 23-28	1	1				
	29-33 34, 41, 42 39 and 40		,				
Model Static Pres.	35, 36, 37 38 and 43	1	1 "	   +15 psid	0-5 psia		
Nozzle Wall Static		-	-				
Pres.	47		1	See Table 3, Orifice No. 47	See Table 3, Orifice No. 47		
Chamber Total Pres.	51		1	0-2500 psia	0-2500 psia		

<sup>\*</sup>All transducers were Stathams.

### Temperature Instrumentation

Description	Thermocouple No.	No, of Thermocouples	Type of Thermocouple	Approximate Temp. Range (°F)		
Model Surface Static Temp.	TCI	1	Chromel-Alumel	50-650		
and the second second	TCZ	1	1	1		
- ' <b>-                                 </b>	TC3	1				
Model Surface Static Temp.	TĊ4	1				
Chamber Total Temp.	TC6	1		50-650		
Sting Static Temp.	TG7	1		50-1000		
Feeder Pipe Temp.	TC8	1- 1	Chromel-Alumei	50-1000		
		1				

Table 5
SCANIVALVE ARRAY FOR PHASE 1

1	2	3	4
Ref	Ref	Ref	Ref
6	7	13	19
5	8	14	20
4	9	15	21
3		] 1	22
2	11	. 1	40
1			43
	6 5 4 3	Ref Ref 6 7 5 8 4 9 3 10	Ref     Ref     Ref       6     7     13       5     8     14       4     9     15       3     10     16       2     11     17

Table 6
PHASE 1 INSTRUMENTATION

	0.00	NT	No. of	Transducer Pressure Range for Ea Mach Number							
Description  Model Static Pres.	Orifice No.	No. of Scanivalves	Transducers*	M = 0.9, 1.2, 1 46	M = 3.48						
	1-6	1	1	<u>+</u> 15 psid	0-5 psia						
	7-12	1	1								
	13-18	1	1								
Model Static Pres.	19-22, 40 and 43	1	1		0-5 psia						
Static Probe Pres.			<b>1</b>	<u>+</u> 15 psid							

<sup>\*</sup>All transducers were Stathams.

Table 7
NOMINAL FREESTREAM CONDITIONS

$\mathrm{M}_{\mathrm{\infty}}$	$^{\mathrm{p}}_{\mathrm{t}_{\infty}}$	P <sub>∞</sub>	T <sub>t∞</sub>	R/L
	φ (psia)	(psia)	(°F)	x 10 <sup>-6</sup> (1/ft)
0.9	18.	10.7	100	5.1
1.2	18	7.4	100	5.5
1.46	18	5.1	100	5.2
3.48	90	1.22	110	10.3

Table 8
MODEL BLOCKAGE IN THE 14-INCH TUNNEL

Model	Plume No.	Blockage Ratio <sup>‡</sup> (percent)						
Strut	None	2.76						
Strut		3.95						
Strut	2	6.85						
Sting	None	0.90						
Sting	ì	2.20						
Sting	2 i 1 i 2 i	5.27						

<sup>\*</sup> Model frontal area ratioed to tunnel cross section area (196 in. 2)

Table 9
CALIBRATION DATA SUMMARY

Air Single Nozzle $A/A* = 6.5 \cdot \theta_{lip} = 35^{\circ}$					•	gle Nozzle		Air Triple Nozzle $A/A* = 4.0, \ \theta_{lip} = 25^{0}$						
P <sub>c</sub> (°F) (psia)	100	250	400	500	P <sub>C</sub> (OF) (psia)	100	500	P <sub>c</sub> ( <sup>o</sup> F) (psia)	60	200	400	500		
200 300 400 450 650 800 950 1300	101 102 103 104 105 106	219 220 221	222 223 224	108 109 110 111 112 113 114	200 400 600 900 1300 1450 1700	382 383 384 385	301 302 303 304 306 307	400 800 1300 1600	405	408	404 403 402 401	406		

CF <sub>4</sub> T A/A* = 8	Triple No	ozzle = 15 <sup>0</sup>		$CF_4$ Single MA/A* = 8.0, $\theta$ Air Calib.	Nozzle <sub>lip</sub> = 15°	$CF_4$ Single Nozzle $A/A* = 8.0$ , $\theta_{lip} = 15^0$ $CF_4$ Calib.					
P <sub>c</sub> (oF)	100	400	500	P <sub>c</sub> (OF) (psia)	500	P <sub>c</sub> (OF) (psia)	200	500			
500 1000 1500 1750	601	602	603 604 605 606	500 1000 1300 1700 2000	501 502 504 504 505	500 1000 1500 2000	514 513 512 511	506 507 508 509			

NOTE: P<sub>c</sub> and T<sub>c</sub> are nominal set values and varying considerably from these values. See Table 11 for the actual values.

Table 10
NON-QUIESCENT DATA SUMMARY

Nozzle Config.		M	= (	).9				M	æ =	1.2			M	, = 1	.46				M <sub>∞</sub>	= 3.	48	
AIR .	Pc	200 3	00	400 5	500 60	00 P	Tc	200	300	400	500 600	Pc	200	300	400	500 6	00	Pc	200	300 4	100 50	0 600
·θ <sub>lip</sub> = 35	400 800 1200 1600	116 1 117 1	53 52 51	156 I 157 I 158 I	192 19 191 19	96 8 97 12 98 16	00 00 00 00	123 122 121	146 147 148	163 162 161	185 204 186 203 187 202 188 201 189 200	1600	125 126 127 128 129		165 166 167 168 169	2 2 2		400 800 1200 1600 2000	134 133 132 131 130			210 211 212 213 214
AIR	PC	100 2	00	5	00	P	Tc	100	200	400	500	Pc	100	200		500		PcC	100	200	100 50	00
SINGLE A/A* = 3.5 0 lip = 25°	1000	323 3 322 3 321 3 320	53	3 3	56 57 58 59	10 15	00 00 00		349 350 351			500 1000 1500 2000	314 313	347 346 345 344		364 365 366 367		500 1000 1500 2000	310	341 : 342 :	379 3	
AIR	2.																	P <sub>C</sub>	100	200	100 5	00
SINGLE A/A* = 3.5 $\theta_{lip} = 35^{\circ}$											at .						•	500 1000 1500 2000	701 713	704	709 708 7 707 7 706 7	15
AIR	P <sub>C</sub>	100 2	00 4	400 5	500	P	T <sub>c</sub>	100	200	400	500	Pc	100	200	400	500		Pc	100	200	400 5	00
TRIPLE $A/A^{\ddagger} = 4.0$ $\theta_{lip} = 25^{\circ}$	500 1000 1500 2000	425 4 4	21	454 4		5 10 15	500 500 500	430	417 418	450	462	500 1000 1500 2000	433	414 413	447 446 445 444	467		500 1000 1500 2000	438	409 410	440 4 441 4 442 4 443 4	70 69
CF <sub>4</sub>	Pc	200 3				-	T <sub>c</sub>	200			600	Pc	200	300	400	600		Pc	200	300	400 5	00 600
SINGLE A/A* = 8.0 $\theta_{lip} = 15^{\circ}$	400 800	518 5	19	542 541 540 ! 539 538	550	12 12	100 300 200 600	517	520	533 534 536 537	549	400 800 1200 1600 2000	516	521	532 531 530 529 528	548		400 800 1200 1600 2000	515	522	523 524 525 5 526 527	46 547
CF <sub>4</sub>	Pc	100 3	300	400	500	F	Tc	100	300	400	500	Pc	100	300	400	500		Pc	100	300 4	00 50	0 600
TRIPLE A/A* = 8.0  0 lip = 150	800 1200 1600 2000	6	507	615 616 617 618	634	12 16	800 200 600 000		608	622 621 620 619	633	800 1200 1600 2000	609		623 624 625 626	612		800 1200 1600 2000		610 6	27 :	1 631

NOTES: 1. P and T are nominal set values and vary considerably from the values above. See Table 11 for the actual values.

(a) run 336 is a repeat of run 311; (b) run 337 is a repeat of run 309; (c) run 535 is a repeat of run 534; and (d) run 632 is a repeat of run 612.

Table 11
PLUME TECHNOLOGY TEST RUN LOG

Run Number	Nozzle Configuration	Test Gas	M <sub>∞</sub>	T <sub>C</sub>	P <sub>c</sub> (psia)	Comments
101 <sup>†</sup> 102 <sup>†</sup> 103 <sup>†</sup> 104 <sup>†</sup> 105 <sup>†</sup> 106 <sup>†</sup> 107 <sup>†</sup> 108 <sup>†</sup> 110 <sup>†</sup> 111 <sup>†</sup> 112 <sup>†</sup> 113 <sup>†</sup> 114 <sup>†</sup> 115 116 117 118 119 <sup>†</sup> 120 121 122 123 124 <sup>†</sup> 125 <sup>†</sup> 126 127 128 129 <sup>†</sup>	Single A/A* = 6.5  θ lip = 35°  Single A/A* = 6.5  θ lip = 35°	Air	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1.467 1.470 1.481 1.482 1.488	81. 96. 101. 114. 116. 106. 450. 438. 467. 469. 506. 505. 533. 549. 200. 242. 226.5 227. 207. 210. 215. 216. 212. 247.4 246.0 225.0 236.3 253.8	114. 270. 469. 934. 1350. 1700. 1780. 210. 409. 655. 815. 952. 1250. 1750. 411.3 753.1 1121. 1485. 1832. 1836. 1470. 1127. 759. 382. 479.6 821.7 1170.2 1580.5 1829.0	Calibration Data Points  Tap 18 bad

<sup>†</sup>Schlieren photograph taken.

Table 11 (Continued)

$\begin{array}{ c c c c c c c c c c c c c c c c c c c$	Comments
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	os 17, 18, 19, 33, 40 bad

 $<sup>\</sup>dagger_{\text{Schlieren photograph taken.}}$ 

Table 11 (Continued)

Run Number	Nozzle Configuration	Test Gas	M <sub>∞</sub>	T <sub>c</sub> (°F)	P <sub>c</sub> (psia)	Comments	
187 188 189 190 191 192 193 194 195 196 197 198 199 200 201 202 203 204 † 205 207 208 207 208 210 211 212 213 214 215 216 217 218 219 219 219 219 219 219 219 219	Single A/A <sup>π</sup> = 6.5 θ lip = 35° Single A/A* = 6.5 θ lip = 35°	Air	1.207 1.207 1.207 1.207 0.898 0.902 0.902 0.892 0.900 0.897 0.906 0.899 0.905 0.906 1.198 1.201 1.200 1.198 1.247 1.440 1.455 1.456 3.480 3.480 3.480 3.480 3.480 3.480 3.480 0.900 1.208 1.457 3.480 0	457.9 447.2 470. 483.1 466.6 462.4 441.0 412.4 525.7 560.3 572.7 581.5 589.8 574.1 575.3 562.1 528.2 527.3 556.4 585.3 587.2 587.2 535.3 564.9 559.2 168. 252.	1134.0 1478.6 1851. 1825.9 1476.9 1162.4 749.1 412.2 386.5 765.8 1124.1 1421.1 1829.0 1826.1 1445.3 1144.6 785.4 384.8 336.7 753.2 1075.1 1492.7 1863.3 428.4 795.0 1186.4 1521.1 1828.0	Tap 18 bad, Jet off run Calibration Data Point Calibration Data Point	

<sup>†</sup>Schlieren photograph taken.

Table 11 (Continued)

Run Number	Nozzle Configuration	Test Gas	M <sub>∞</sub>	T <sub>c</sub>	P <sub>c</sub> (psia)	Comments
221† 222† 223† 224† 301† 302† 303† 304† 306 307 308† 310† 311† 312† 313 314 315† 316 317 318 319† 320† 321 322 323	Single A/A = 3.5 $\theta_{\text{lip}} = 3.5$ Single A/A = 3.5 $\theta_{\text{lip}} = 25^{\circ}$	Air	0 0 0 0 0 0 0 0 0 3.480 3.480 3.480 3.480 1.477 1.476 1.477 1.459 1.208 1.206 1.207 1.207 0.909 0.910 0.908 0.903	279. 346. 391. 441. 480. 524. 536. 521. 562. 580. 63.7 42.6 87.6 95.7 52.1 50.4 52.5 111.6 51.3 47.7 51.4 48.9 50.8 49.9 57.9	555. 807. 1000. 1268. 182. 409. 632. 923. 1286. 1452. 454.5 1097.2 1430.1 1567.1 1697.6 1426.4 980.2 507.3 514.6 1506.0 1496.5 1737.5 1712.6 1410.8 947.6 469.8	Tap 18 bad, Calibration Data Points  Tap 43 bad  Taps 22 and 39 reversed Taps 22 and 39 reversed Taps 22 and 39 reversed Taps 21 bad  Tap 21 bad

<sup>\*</sup>Tap 21 bad.

 $<sup>\</sup>dagger$ Schlieren photograph taken.

Table 11 (Continued)

Run Number	Nozzle Configuration	Test Gas	M <sub>∞</sub>	T <sub>c</sub>	P <sub>c</sub> (psia)	Comments
328 329 + 336 + 337 + 340 + 341 + 342 + 343 + 344 - 345 - 346 - 347 - 350 - 351 - 353 - 354 + 357 - 358 + 361 - 362 - 363 + 365 - 367 + 367 + 367 + 367 + 367 + 368 - 367 + 368 - 367 + 368 - 368	Single A/A* = 3.5 θ lip = 25°  Single A/A* = 3.5 θ lip = 25°	Air	1.186 1.189 3.480 3.480 3.480 3.480 3.480 3.480 1.478 1.459 1.206 1.203 1.203 0.907 0.905 0.906 0.888 0.901 0.901 0.902 1.208 1.211 1.168 1.194 1.468 1.491 1.487	430.7 423.6 117.8 85.6 215.0 226.7 228.0 240.4 249.9 256.9 270.0 277.7 244.6 251.1 248.5 252.4 248.2 242.0 492.5 506.6 529.8 520.4 554.8 544.7 518.6 483.8 467.1 501.5 530.8 528.2	1479.4 1251.8 1613.0 987.9 431.6 °69.7 40.9 5.5 80.7 1216.9 861.0 459.8 855.9 1223.9 1603.9 1574.2 1214.7 864.7 463.9 838.3 1228.9 1508.1 1607.5 1233.4 852.0 453.7 462.1 845.9 1230.4 1590.0	Tap 21 bad. Taps 1, 2, 3 bad on this run, 22 and 39 reversed  Tap 21 bad

<sup>†</sup>Schlieren photograph taken.

Table 11 (Continued)

Run Number	Nozzle Configuration	Test Gas	M <sub>∞</sub>	T <sub>c</sub>	P <sub>c</sub> (psia)	Comments
370 <sup>†</sup> 372 373 374 375 <sup>†</sup> 376 <sup>†</sup> 3776 <sup>†</sup> 3776 <sup>†</sup> 380 <sup>†</sup> 381 <sup>†</sup> 382 <sup>†</sup> 383 <sup>†</sup> 401 <sup>†</sup> 402 <sup>†</sup> 403 <sup>†</sup> 406 <sup>†</sup> 406 <sup>†</sup> 410 <sup>†</sup> 411 412 413 414 415 416 417 418	Single A/A* = 3.5 θ lip  Single A/A* = 3.5 θ lip = 25°  Triple A/A* = 4.0 θ lip = 25°  Triple A/A* = 25°	Air Air	3.480 0.901 1.200 1.464 3.480 3.480 3.480 3.480 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	506.8  483.8 521.9 401.1 399.7 384.8 131.6 73.6 52.5 48.8 385. 380. 380. 60. 505. 237. 237.3 224.5 218.5 284.9 245.9 233.1 211.8 201.6 216.8 225.2	428.0 1502.5 855.3 1224.6 1495.2 523.2 941.1 1396.0 1701.5 1650. 1300. 753. 476. 1500. 1680. 487. 889.3 1303.6 1636.3 1562.1 1262.7 908.4 466.9 485.9 915.0 1312.8	No. 21 bad. Taps 22 and 39 reversed  Tap 21 bad. Taps 22 and 39 reversed  Calibration Data Points  Taps 34, 42 bad

<sup>†</sup>Schlieren photograph taken.

Table 11 (Continued)

	ozzle Test figuration Gas	M <sub>∞</sub>	T <sub>c</sub>	P c (psia)	Comments
420 A/ 421 422 423 425 430 433 438 440 441 442 443 445 446 447 448 450 451 452 453 454 455 457 459 460 462 Tr	iple A* = 4.0	1.202 0.905 0.907 0.904 0.900 0.905 1.204 1.477 3.480 3.480 3.480 3.480 1.469 1.464 1.464 1.464 1.205 1.205 1.200 1.197 1.193 0.902 0.878 0.895 0.895 0.895 0.895 0.895 0.893 0.900 1.204 1.212 1.466 1.466	228.9 226.2 225.1 217.3 219.6 63.3 52.3 67.3 114.5 358.5 360.2 361.5 368.1 398.8 395.8 431.2 447.5 339.9 384.1 418.5 412.5 374.0 355.4 374.3 355.6 541.5 550.0 543.1 516.4 527.1 523.0	1611.4 1629.4 1312.7 899.5 477.1 1021.5 997.6 1068.8 1050.0 456.1 924.9 1229.8 1639.0 1605.1 1324.3 923.1 307.4 394.0 906.9 1327.6 1492.3 1631.4 1317.9 836.6 488.0 933.1 1631.4 1633.6 887.3 1637.5 901.5	Taps 34, 42 bad

 $<sup>\</sup>dagger$ Schlieren photograph taken.

Table 11 (Continued)

Run Number	Nozzle Configuration	Test Gas	${ m M}_{\infty}$	T <sub>c</sub> ( <sup>o</sup> F)	P <sub>c</sub> (psia)	Comments	
Number  469+ 470+ 471 472 473 474+ 501+ 502+ 504+ 506+ 507+ 508+ 511+ 513+ 514+ 515 516 517 518 519 520 521 523+	Triple A/A = 4.0 $\theta$ lip  Single A/A* = 8.0 $\theta$ lip  lip		3.480 3.480 0.903 1.199 1.466 3.480 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	(°F) 527.1 510.7 467.2 477. 506. 495. 516. 537. 468. 508. 432. 513. 170. 106. 179. 140. 243.6 240.3 233.7 235.2 315.0 310.7 308.8 294.2 343.3	(psia)  1280.0 813.9 385.0  486. 954. 1320. 1701. 1960. 548. 987. 1482. 1897. 2020. 1574. 1100. 570. 1170.8 1133.6 1213.7 1219.2 1137.9 1135.6 1141.5 1147.9 425.6	Taps 34, 42 bad  Jet Off Runs  Air Calibration Runs  CF <sub>4</sub> Calibration Runs  Taps 13, 34, 41 bad	
524 <sup>†</sup> 525 <sup>†</sup> 526 <sup>†</sup> 527 <sup>†</sup>	Single A/A* = 8.0 $\theta_{lip} = 15$	CF <sub>4</sub>	3.480 3.480 3.480 3.480	453.1 380.9 384.2 373.1	794.9 1234.6 1545.7 1809.3		

<sup>†</sup>Schlieren photograph taken.

Table 11 (Continued)

	Table 11 (Generates)						
Run Number	Nozzle Configuration	Test Gas	M <sub>∞</sub>	T <sub>c</sub> ( <sup>o</sup> F)	P <sub>c</sub> (psia)	Comments	
529 530 531 533 533 533 533 533 533 533 533 533	Single A/A = 8.0 $\theta_{\text{lip}} = 15^{\circ}$ Single A/A* = 8.0 $\theta_{\text{lip}} = 15^{\circ}$	CF <sub>4</sub>	1.484 1.482 1.467 1.459 1.444 1.195 1.202 1.204 1.198 1.202 0.901 0.904 0.894 0.899 3.480 1.473 1.204 0.893 0.898 1.195 1.456 3.480	417.2 417.3 406.3 400.1 350.2 384.3 402.3 403.9 428.4 425.3 420.9 424.1 407.6 400.9 210.6 446.9 566.1 543.4 537.5 542.8	1857.2 1542.9 1144.0 843.9 496.7 508.7 859.7 865.1 1562.3 1916.9 1883.3 1572.2 1189.6 851.1 480.8 1194.2 1220.4 1253.7 1233.4 1229.5	Taps 34 and 41 bad  Taps 13, 34, 41 bad  Taps 13, 34, 41 bad  Taps 34, 41 bad  Jet Off Runs	
601+ 602+ 603+ 604+ 605+ 606 607 608 609	Triple A/A* = 8.0  \theta_{lip} = 150  Triple A/A* = 8.0 \theta_{lip} = 150	CF <sub>4</sub>	0.0 0.0 0.0 0.0 0.0 0.0 0.906 1.212 1.457	130. 350. 475. 537. 557. 557. 294.8 335.8 150.8	1080. 980. 563. 1076. 1473. 1760. 1504.1 1583.2 1259.7	Calibration Data Points  Taps 13, 20, 28 bad	

<sup>†</sup>Schlieren photograph taken.

Table 11 (Continued)

Run Number	Nozzle Configuration	Test Gas	M <sub>∞</sub>	T <sub>c</sub>	P <sub>c</sub> (psia)	Comments
610 611 612 615 616 617 618 619 620 621 622 623 624 625 627 628 631 631 632 633 634 635 637 702 703 704	Triple A/A* = 8.0  θ lip = 15°  Triple A/A = 8.0  θ lip = 15°  Single A/A* = 3.5  θ lip = 35°	CF <sub>4</sub> Air Air	3.480 3.480 1.462 0.894 0.901 0.901 1.210 1.202 1.201 1.193 1.453 1.459 1.467 1.476 3.480 3.480 3.480 3.480 3.480 1.461 1.193 0.902 0.906 1.199 1.454 3.480	337.0 464.8 553.4 379.6 388.7 410.7 410.4 377.0 407.4 397.3 388.3 391.3 380.8 384.0 388.6 395.3 397.2 382.4 399.0 552.6 526.9 569.1 571.0	1518.2 1467.8 1211.2 832.1 1147.0 1544.3 1872.5 1885.9 1550.8 1230.7 822.3 859.5 1216.7 1565.6 1921.2 1803.1 1472.0 1181.3 815.8 1618.9 1120.7 1608.6 1610.3	Jet Off Runs Taps 40, 42 bad Taps 40, 42 bad

<sup>†</sup>Schlieren photograph taken.

Table 11 (Concluded)

Run Number	Nozzle Configuration	Test Gas	M <sub>∞</sub>	T <sub>c</sub> (°F)	P <sub>C</sub> (psia)	Comments
705† 706† 706† 707† 708† 709† 710† 711† 712† 713† 714† 715†	Single A/A = 3.5 $\theta_{lip} = 35^{\circ}$ Single A/A = 3.5 $\theta_{lip} = 35^{\circ}$	Air	3.480 3.480 3.480 3.480 3.480 3.480 3.480 3.480 3.480 3.480	231.6 405.5 394.8 381.0 357.4 525.0 529.8 83.4 42.3 63.7 537.5	1561.3 1548.5 1248.8 724.2 433.8 845.0 1553.7 530.9 1370.8 1548.0 1243.3	Taps 40, 42 bad

<sup>†</sup>Schlieren photograph taken.

1,000

○ = Space Shuttle Main Engine
$$\triangle = CF_4 \begin{cases} P_c = 2000 \text{ psia} \\ T_c = 760^{\circ} R \end{cases}$$

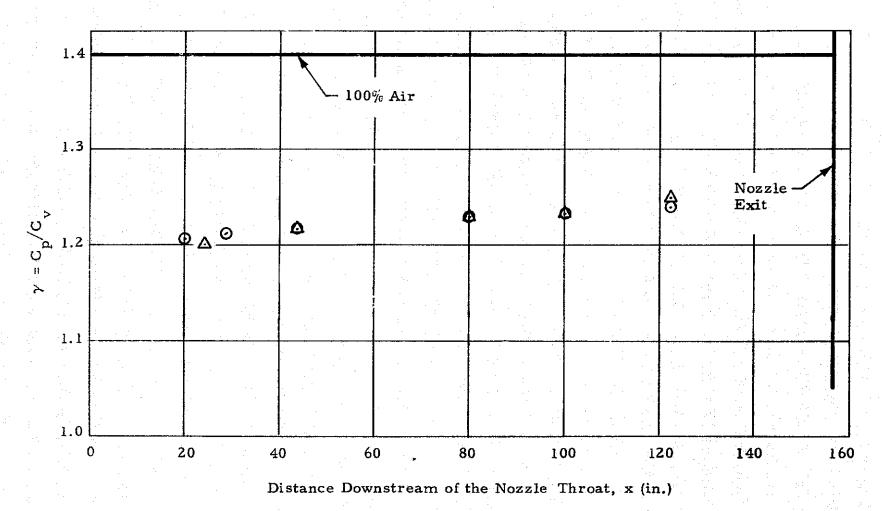


Fig. 1 - Variation of the Ratio of Specific Heats for a Typical Booster

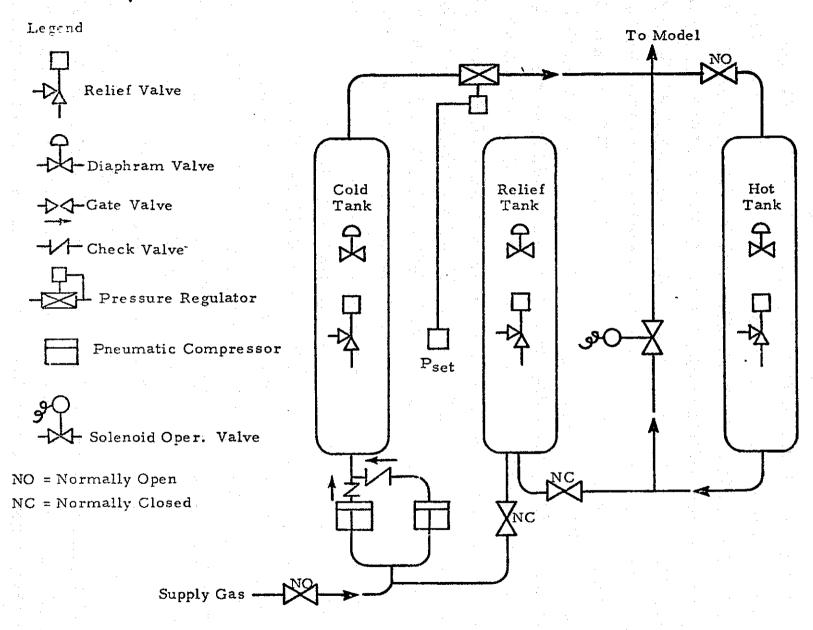


Fig. 2 - Schematic of NASA-MSFC Gas Heater

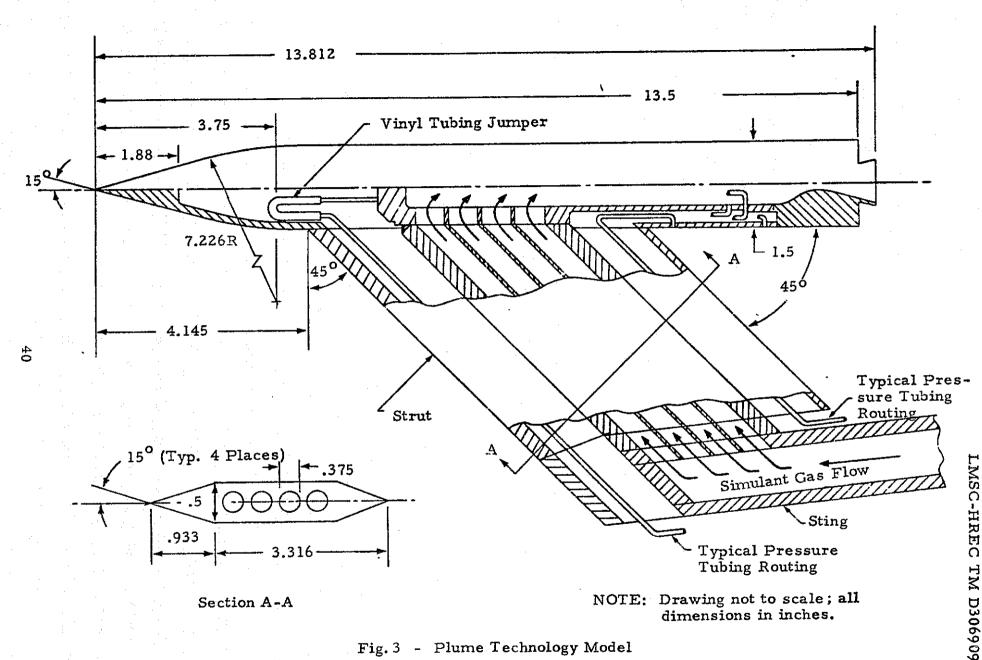


Fig. 3 - Plume Technology Model

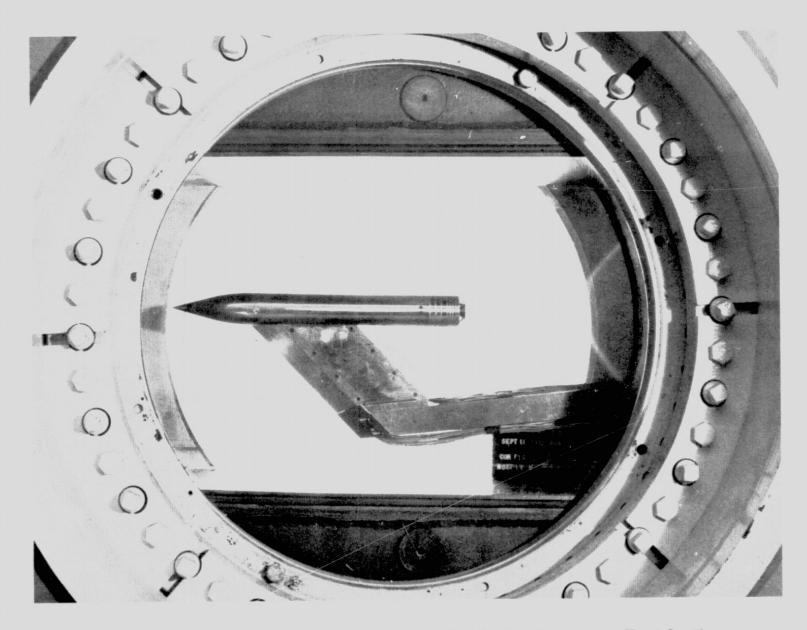


Fig. 4 - Cone-Ogive-Cylinder Model Installed in the Supersonic Test Section

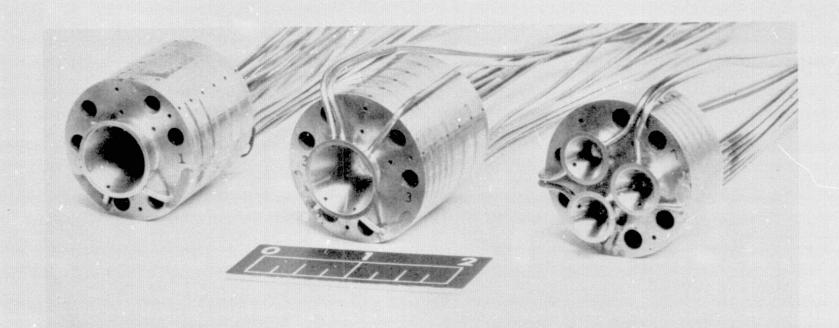


Fig. 5 - Typical Single and Triple Nozzle Configurations

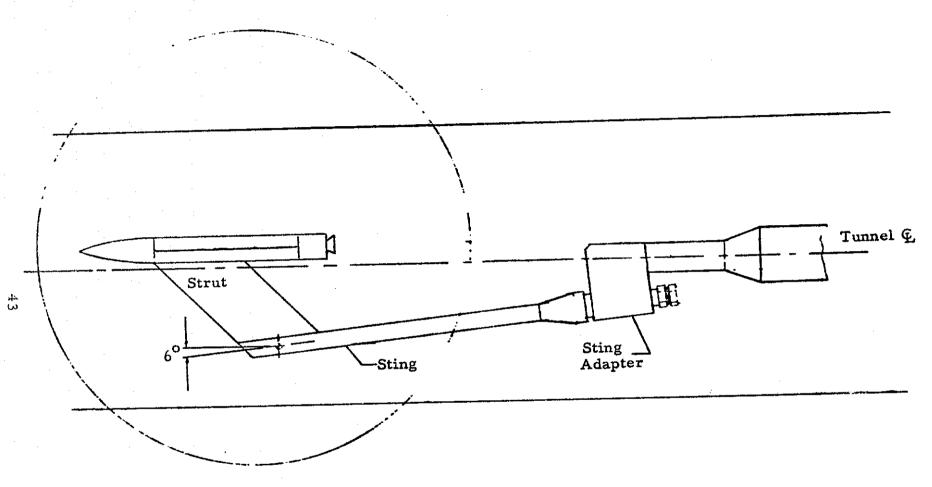
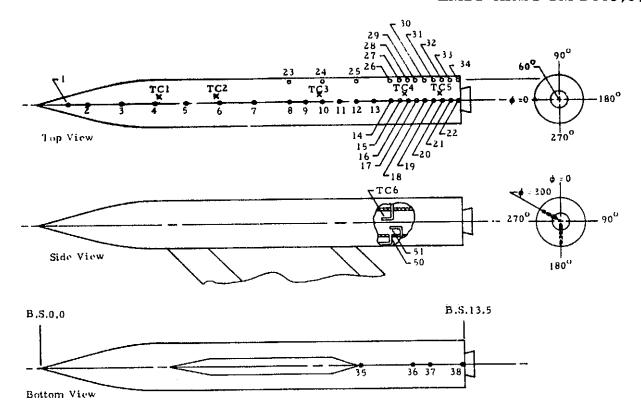


Fig. 6 - Plume Technology Model Installed in the MSFC 14-Inch Trisonic Wind Tunnel



a. Model Surface and Chamber Pressure Orifice and Thermocouple Locations

Model	Surface	Pressure
Or	ifice Lo	cations

Orifice S No. 1 2 3 4 4 5 6 7 8 9 10 11 12 13	ilice Poc	ations	OI.	TILLE DOC	4110115
	Body Station (in.)	Angular Orientation \$\phi\$ (deg)	Orifice No.	Body Station (in.)	Angular Orientation \$\phi\$ (deg)
8 9 10 11 12 13	1.011 1.631 2.700 3.778 4.809 5.880 6.959 8.038 8.582 9.119 9.663 10.202 10.743 11.284 11.55 11.824 12.094 12.363 12.631	0	20 21 22 23 24 25 26 27 28 29 30 31 32 34 35 36 37 8	12.904 13.172 13.443 8.043 9.125 10.205 11.283 11.554 11.825 12.096 12.366 12.966 13.176 13.446 10.206 11.826 12.366 13.466	0 0 60 60 180

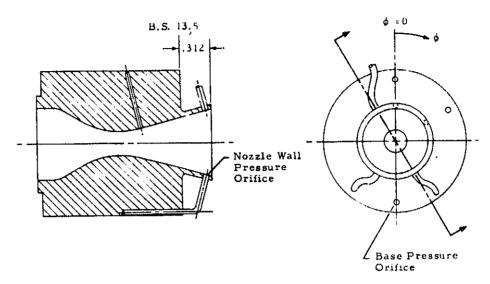
Model Surface Pressure Model Surface Temperature
Orifice Locations Thermocouple Locations

No.	Body Station (in.)	Angular Orientation \$\phi\$ (deg)
TC1	3.9	15
TC2	5.8	15
TC3	9.1	15
TC4	11.7	15
TC5	12.8	15

Model Chamber Pressure and Temperatur Instrumentation Location

Туре	No.	Body Station (in.)	Angular Orientation \$\phi\$ (deg)
Static Pressure	50	11.188	180
Total Pressure	51	11.188	180
Total Temperature	TC6	10.938	300

Fig. 7 - Plume Technology Model Pressure Orifice and Thermocouple Locations



b. Single Nozzle Wall and Model Base Pressure Orifice Locations

Single Nozzle Wall Pressure Orifice Locations

Nozzle Config.	Gas	Orifice No.	Dist. from Throat (in.)	Angular Orientation φ (deg)
A/A* = 6.5 e lip = 35°	Air	44* 45* 46 47 48*	0,327 0,429 0,430 0,430 0,379	330 330 150 210 30
$A/A* = 3.5$ $\theta_{lip} = 35^{\circ}$	Air	46 47	0,241 0,241	150 210
A/A* = 3.5 e lip = 250	Air	44* 45* 46 47 48*	0.348 0.467 0.471 0.471 0.407	330 330 150 210 30
A/A* = 8.0 8 lip = 150	CF <sub>4</sub>	44* 45* 46 47 48*	0.259 0.934 0.936 0.934 0.588	335 330 150 210 30

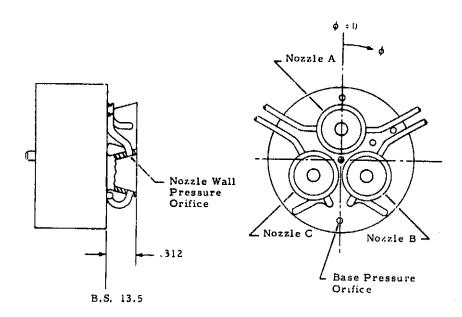
<sup>\*</sup>Tube routed outside the nozzle.

Model Base Pressure Orifice Locations for All Single Nozzles

Orifice No.	Body Station (in.)	Radius (in, )	Angular Orientation (deg)
39	13,499	0.63	0
40	1 1	0.39	٥
41		0.63	60
42	♦	0, 39	60
43	13.499	0.63	180

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Fig. 7 - (Continued)



## c. Triple Nozzle Wall and Model Base Pressure Orifice Locations

Triple Nozzle Wall Pressure Orifice Locations

lozzle Config.	Gas	Orifice No.	Nozzle	Dist. from Throat (in.)	Angular Orientation \$\phi\$ (\sigma eg)
A/A* = 4.0 elip = 25°	Air	44* 45* 46* 47 48 49*	A A B B C C	0.269 0.268 0.275 0.275 0.281 0.281	270 90 30 210 150 330
A/A* = 8.0 9 lip = 15°	CF <sub>4</sub>	44* 45* 46* 47 48 49*	A A B B C C	0.465 0.463 0.461 0.461 0.468 0.469	270 90 30 210 150 330

<sup>\*</sup>Tube routed outside the nozzle.

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Model Base Pressure Orifice Locations for All Triple Nozzles

4	fice o.	Budy Station (in.)	Radius (in.)	Angular Orientation (deg)
-	ž į	13,499 13,499	0.63 0.0 0.64 0.30 0.63	0 0 60 60 180

Fig. 7 - (Concluded)

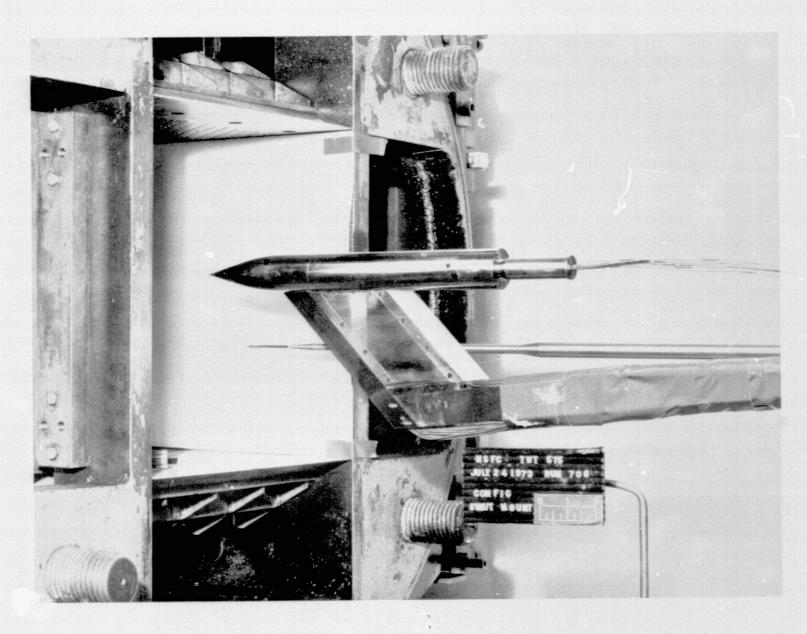


Fig. 8 - Strut-Mounted Model Installation Showing Afterbody Extension for Attaching Solid Plumes

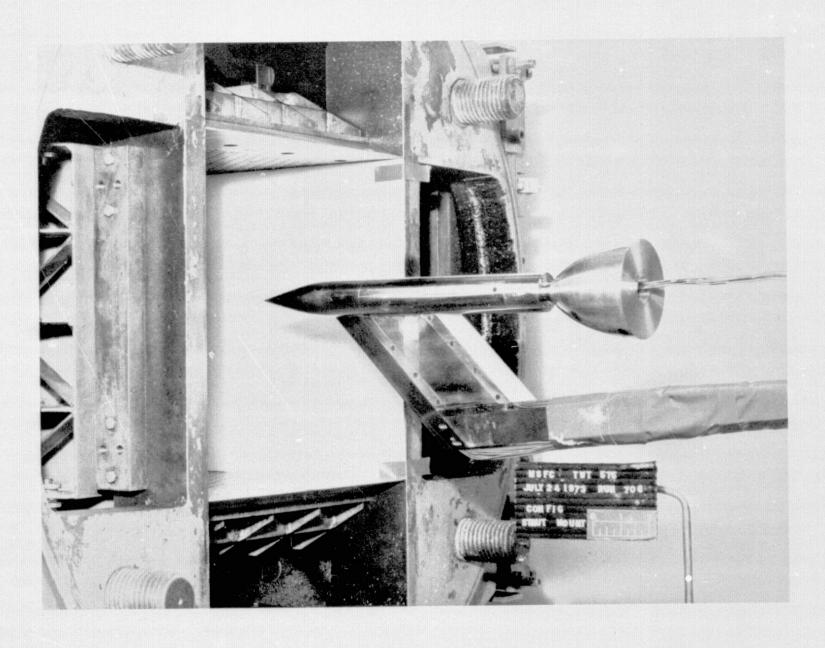


Fig. 9 - Strut-Mounted Model with Solid Plume Installed

48

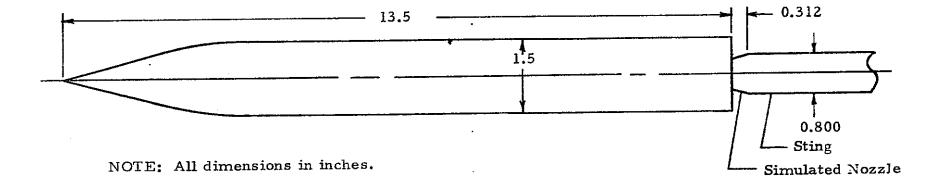
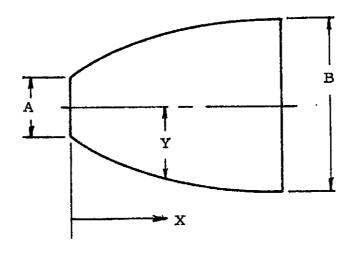


Fig. 10 - Sting-Mounted Model Schematic



Plu	X     Y       0.000     0.400       0.400     0.670       0.800     0.855       1.200     0.982       1.600     1.080	Plu	me 2
A = 0.800	B = 2.330	A = 0.800	B = 3.640
x	Y	х	Y
0.300	0.400	0.000	0.400
0.400	0.670	0.400	0.761
0.800	0.855	0.800	1.020
1.200	0.982	1.200	1.230
1.600	1.080	1.600	1.400
2.000	1.140	2.000	1.540
2.400	1.159	2.400	1.640
2.800	1.167	2.800	1.720
		3.200	1.780
		3.600	1.820

NOTE: All dimensions in inches.

Fig. 11 - Solid Plume Geometry

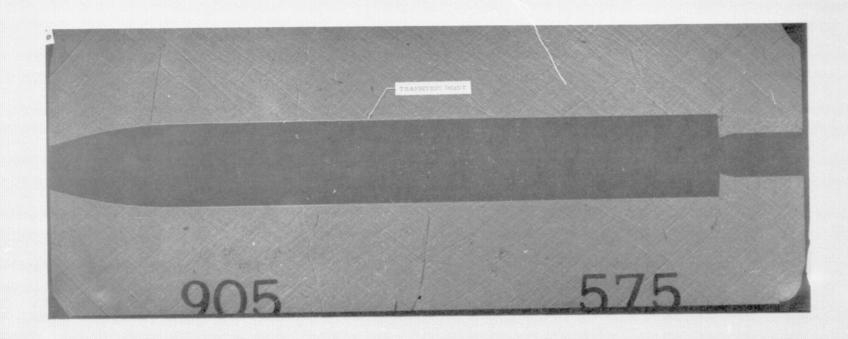


Fig. 12 - Shadowgraph of Boundary Layer Transition Without Grit at Mach 1.46

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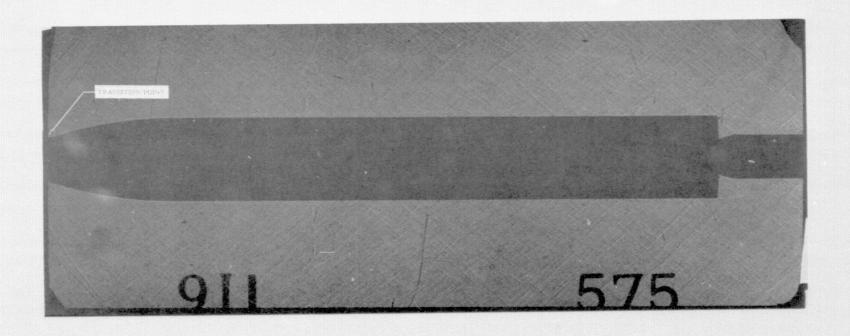
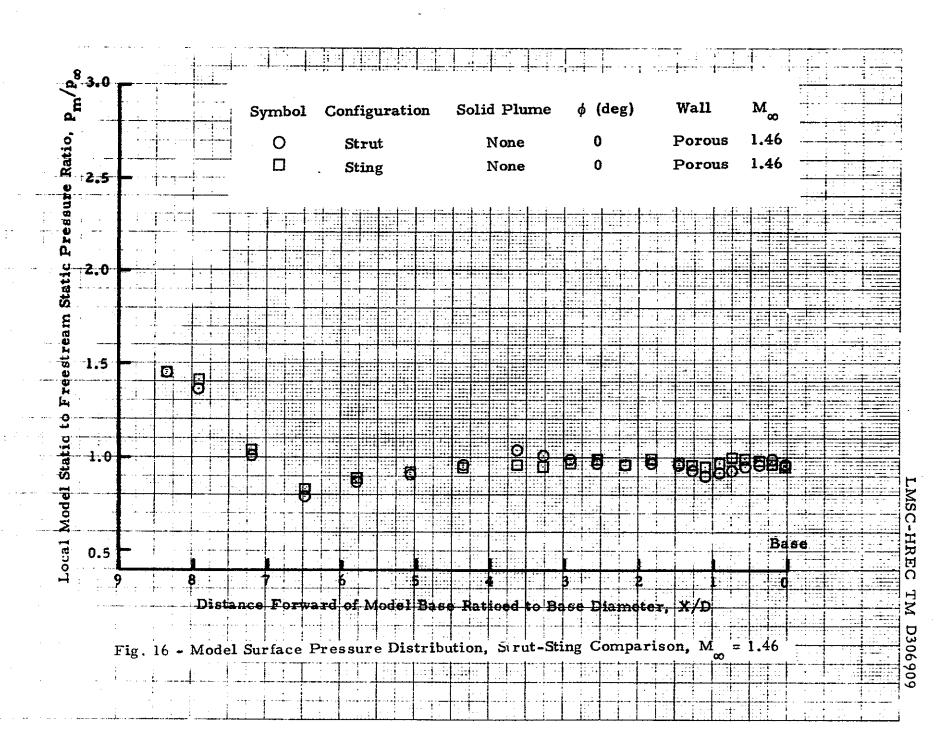


Fig. 13 - Shadowgraph of Boundary Layer Transition with No. 60 Grit at M = 1.46



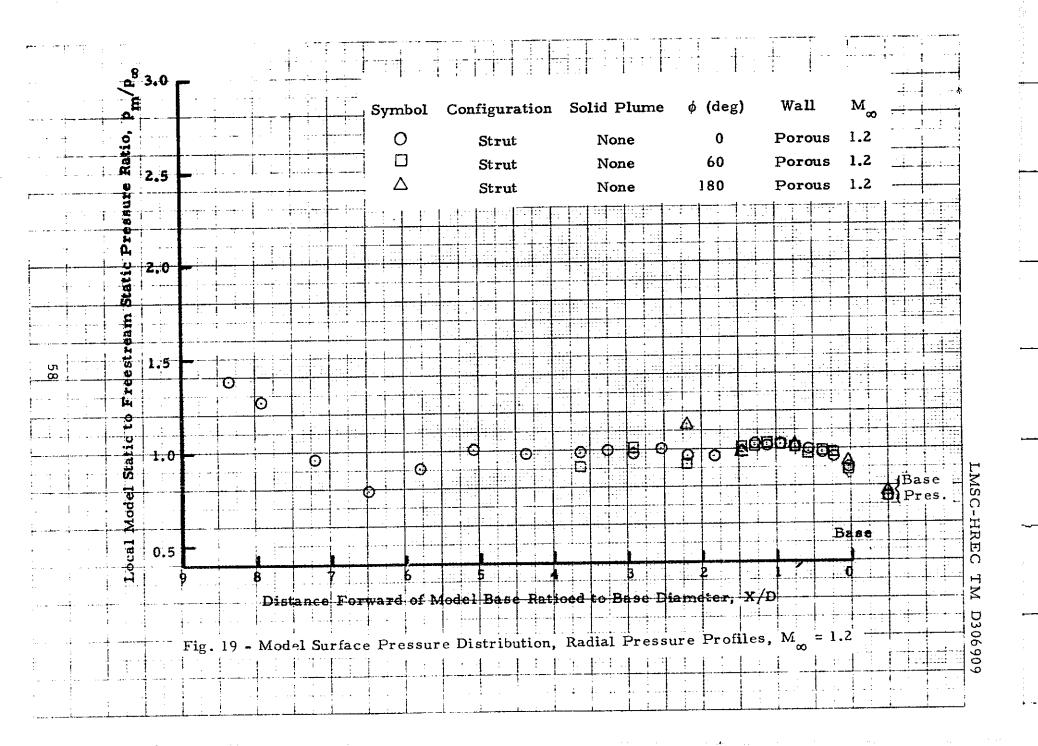
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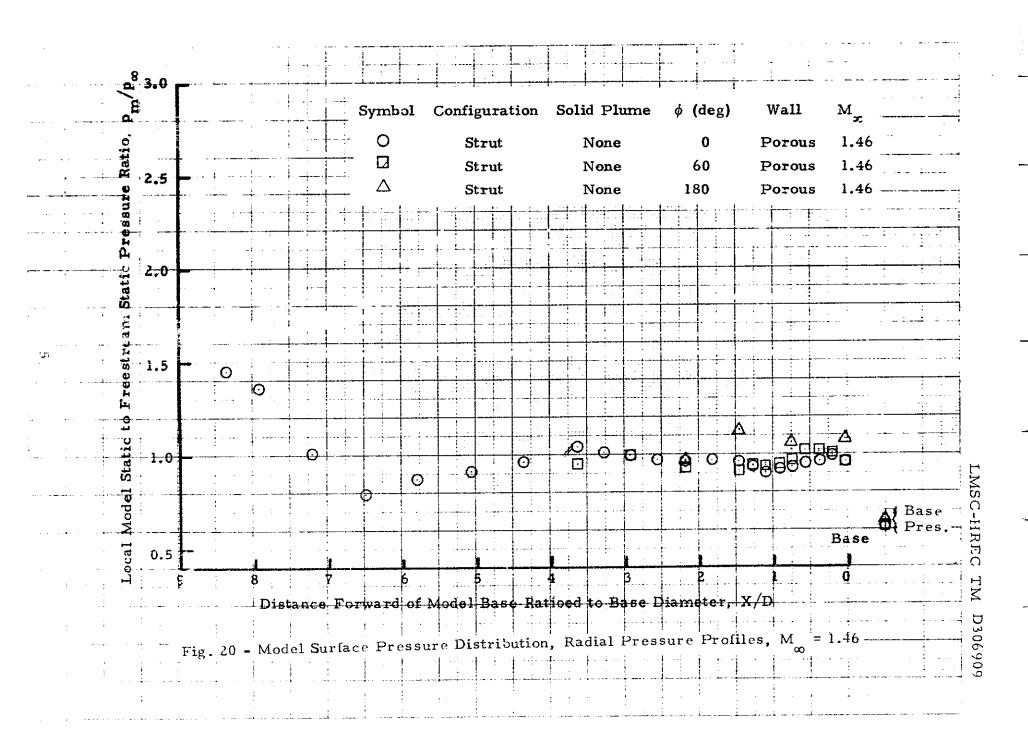
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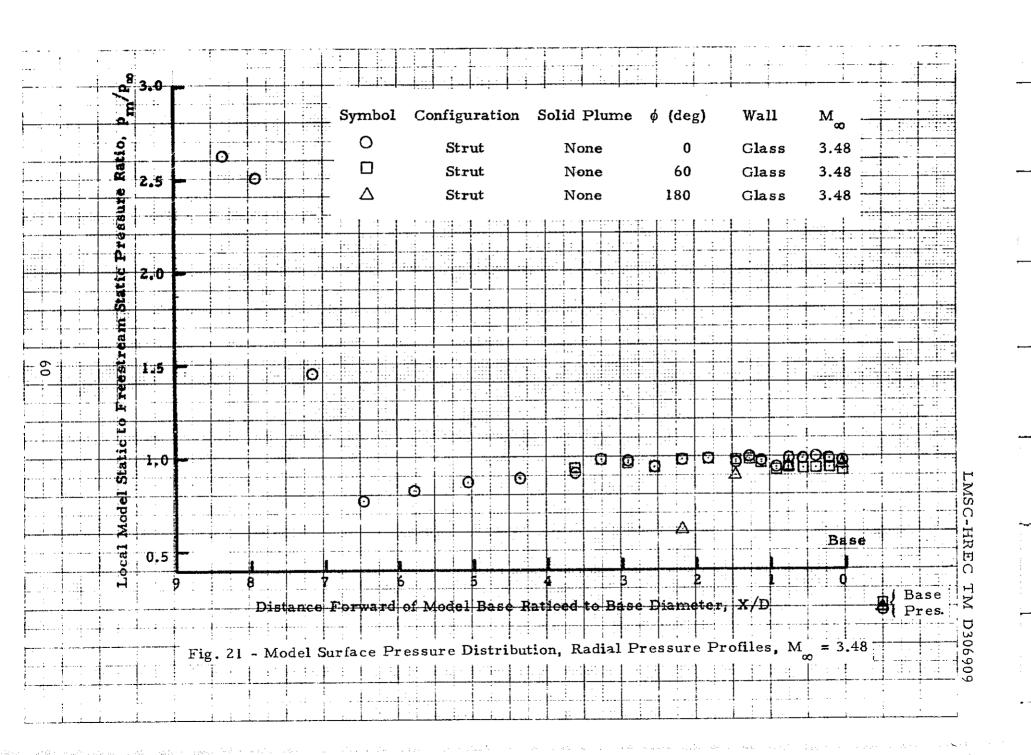
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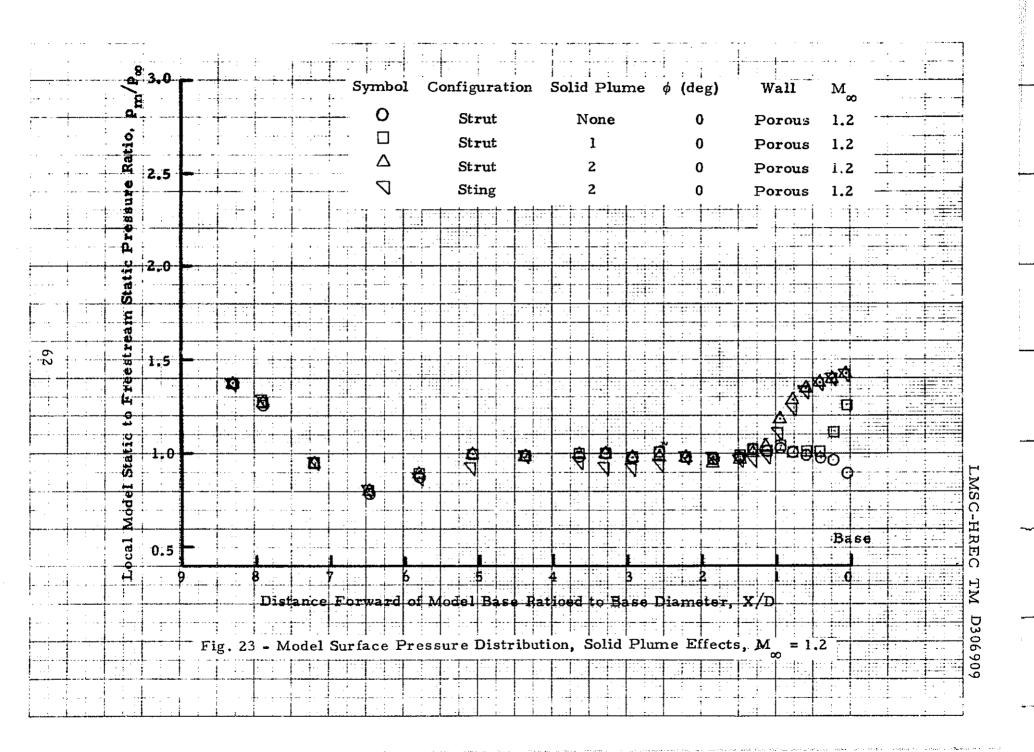
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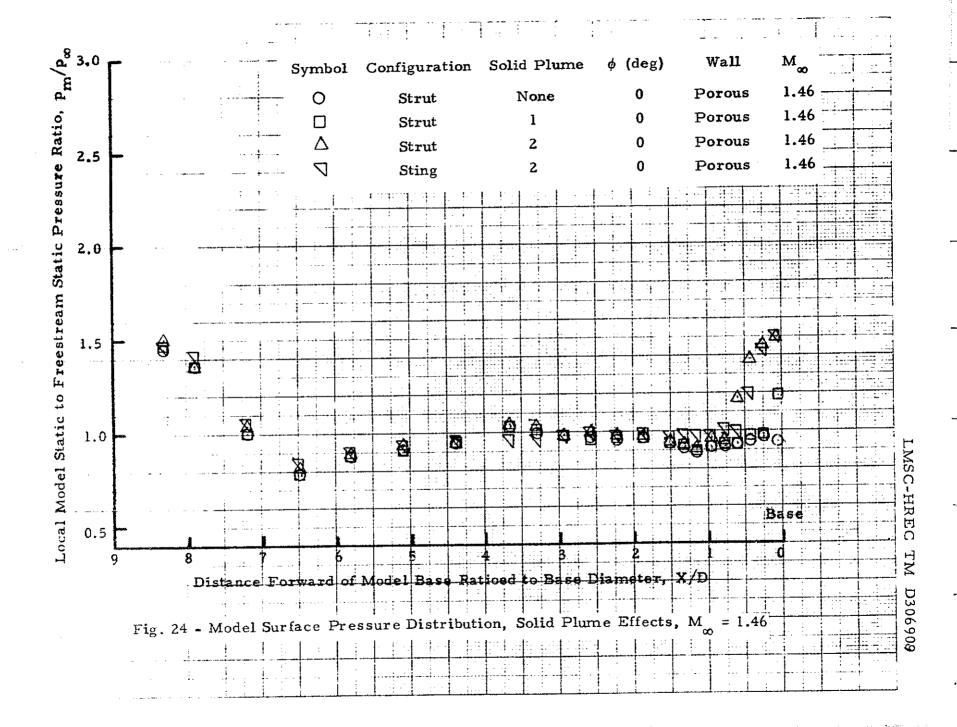


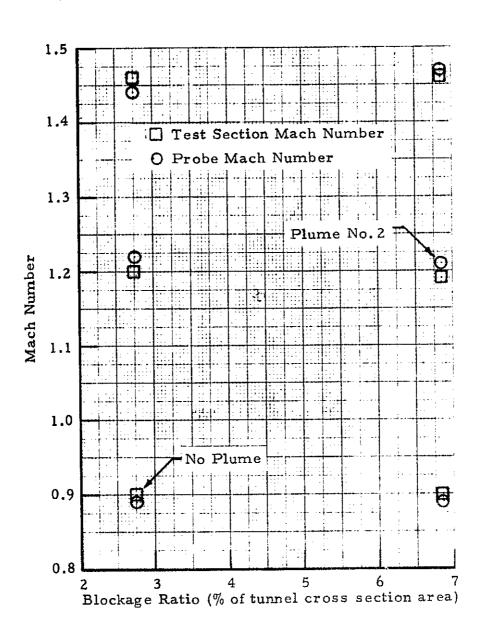




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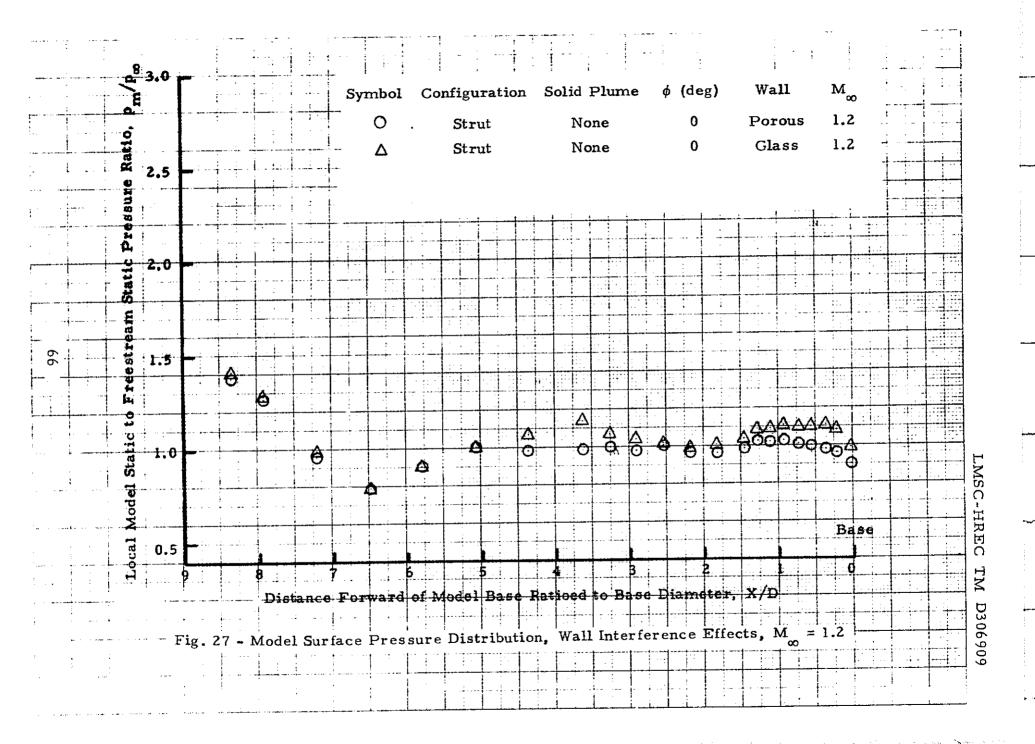


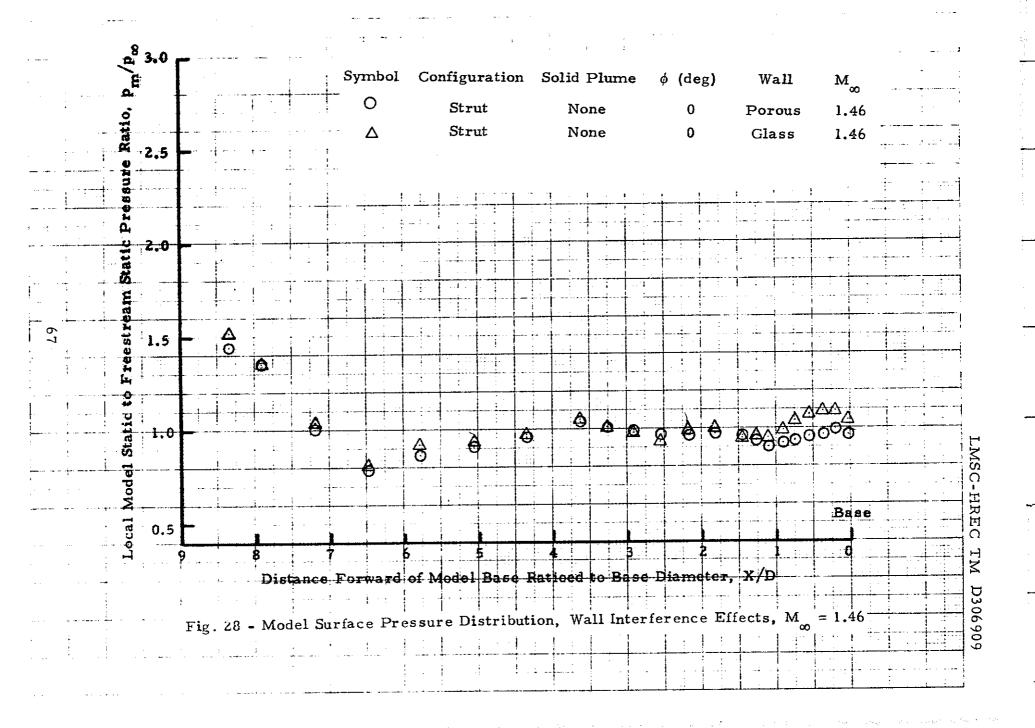




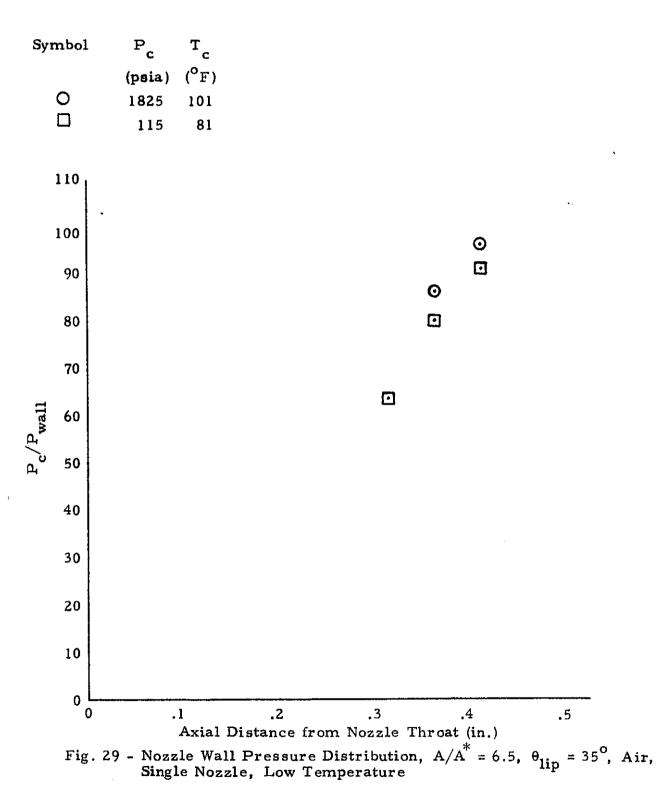
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Fig. 25 - Comparison of Probe and Test Section Mach Numbers for the Strut Model with No Plume and Plume Number 2









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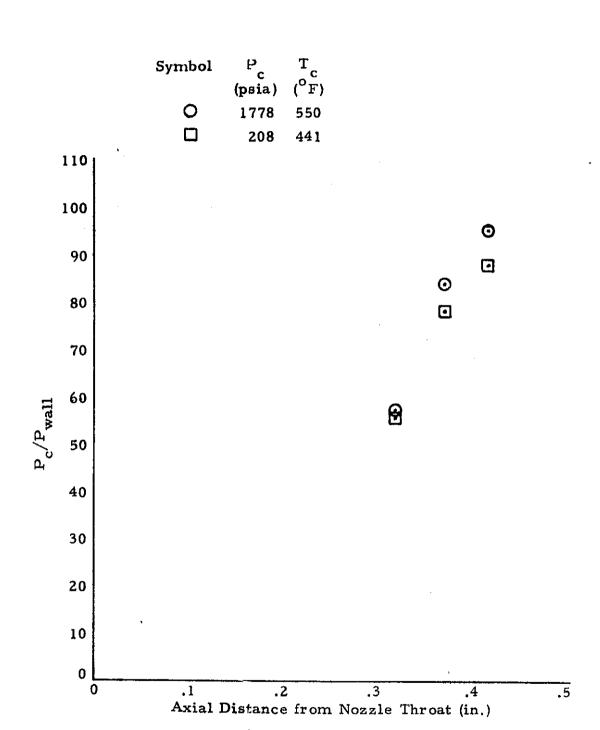


Fig. 30 - Nozzle Wall Pressure Distribution,  $A/A^* = 6.5$ ,  $\theta_{lip} = 35^{\circ}$ , Air, Single Nozzle, High Temperature

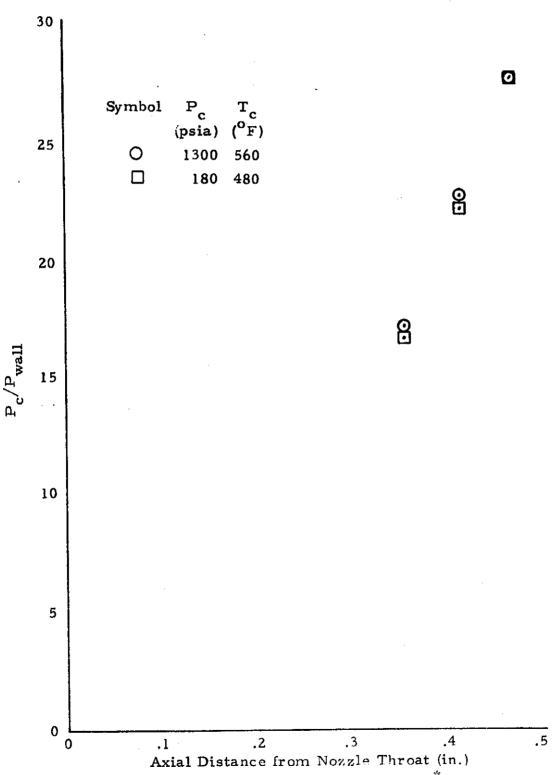
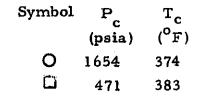


Fig. 31 - Nozzle Wall Pressure Distribution,  $A/A^* = 3.5$ ,  $\theta_{lip} = 25^{\circ}$ , Air, Single Nozzle



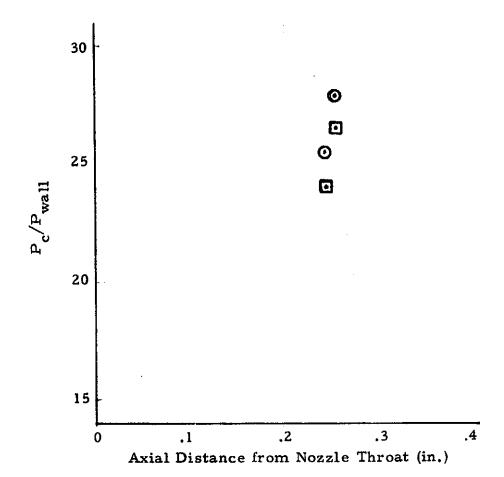
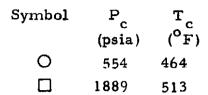


Fig. 32 - Nozzle Wall Pressure Distribution,  $A/A^* = 4.0$ ,  $\theta_{lip} = 25^{\circ}$ , Air, Triple Nozzle





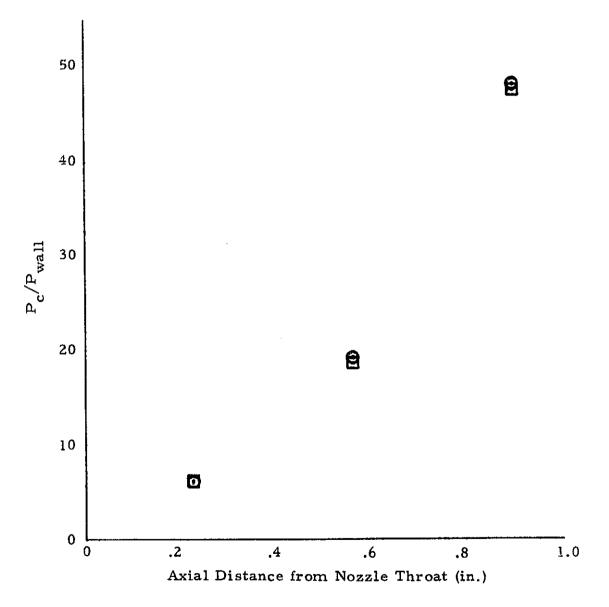


Fig. 33 - Nozzle Wall Pressure Distribution,  $A/A^* = 8.0$ ,  $\theta_{lip} = 15^{\circ}$ ,  $CF_4$ , Single Nozzle

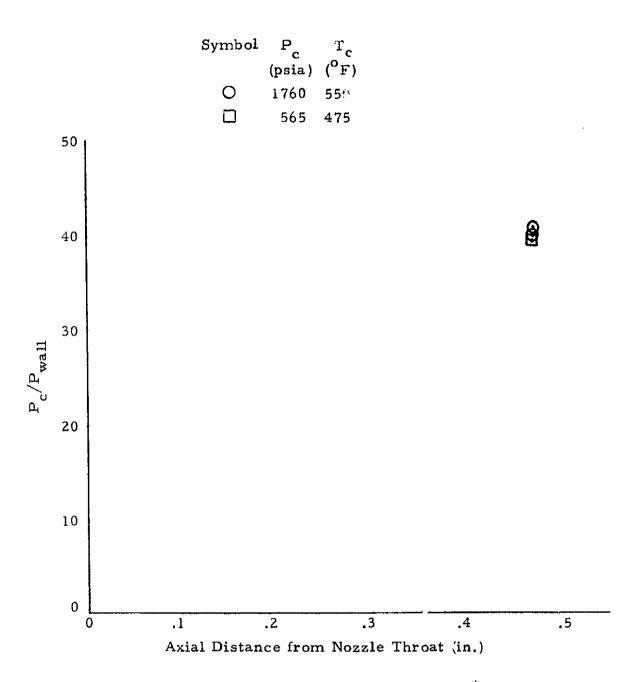


Fig. 34 - Nozzle Wall Pressure Distribution,  $A/A^* = 8.0$ ,  $\theta_{lip} = 15^{\circ}$ ,  $CF_4$ , Triple Nozzle

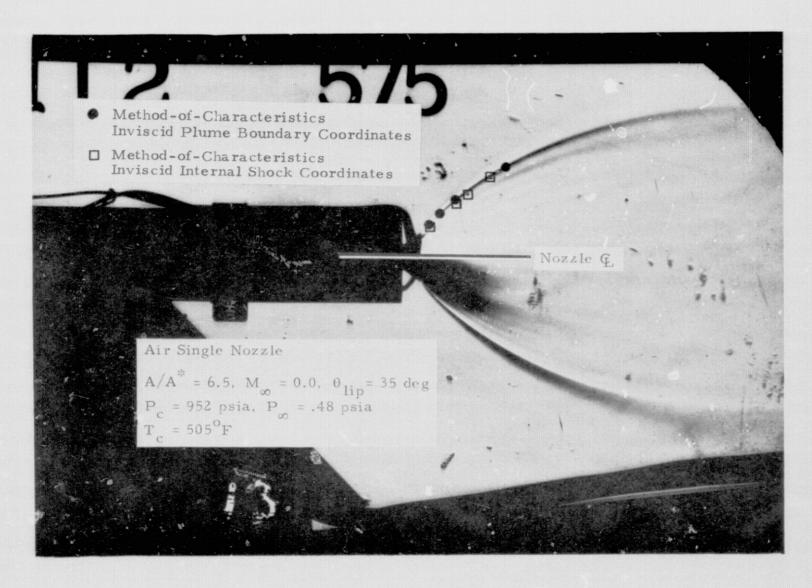


Fig. 35 - Comparison Between Analytical and Experimental Plume Shapes With No Near-Field Condensation (Air, Single Nozzle)

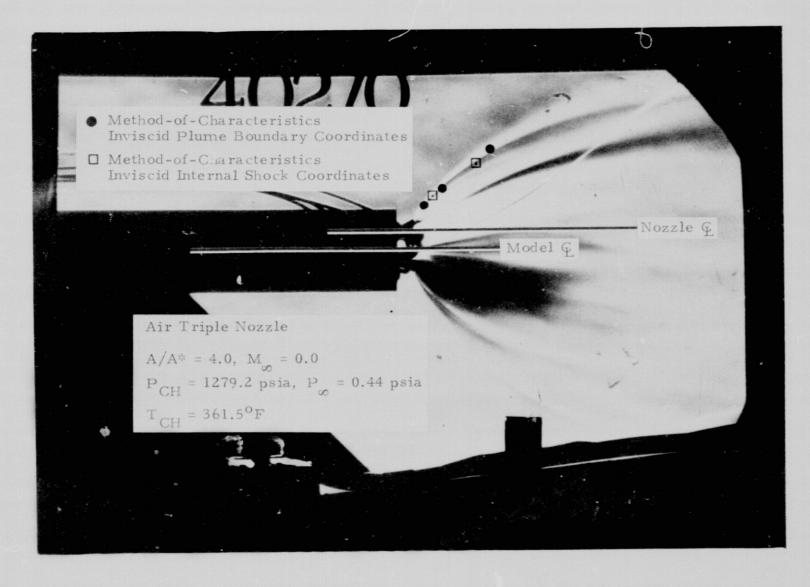


Fig. 36 - Comparison Between Analytical and Experimental Plume Shapes With No Near-Field Condensation (Air, Triple Nozzle)

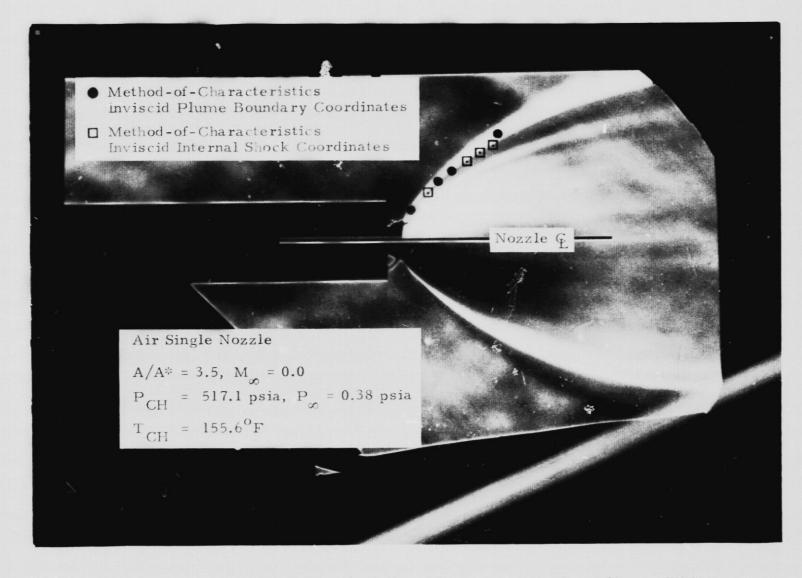


Fig. 37 - Comparison Between Analytical and Experimental Plume Shapes With No Observed Condensation

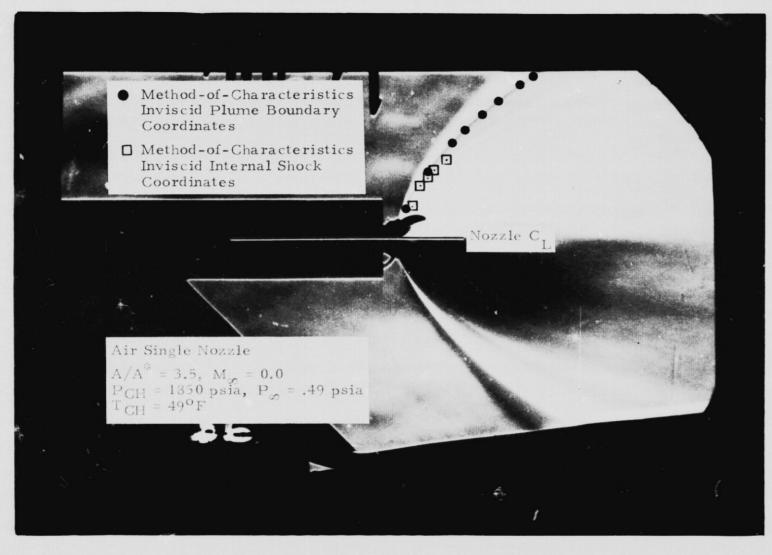


Fig. 38 - Comparison Between Analytical and Experimental Plume Shapes With Observed Condensation

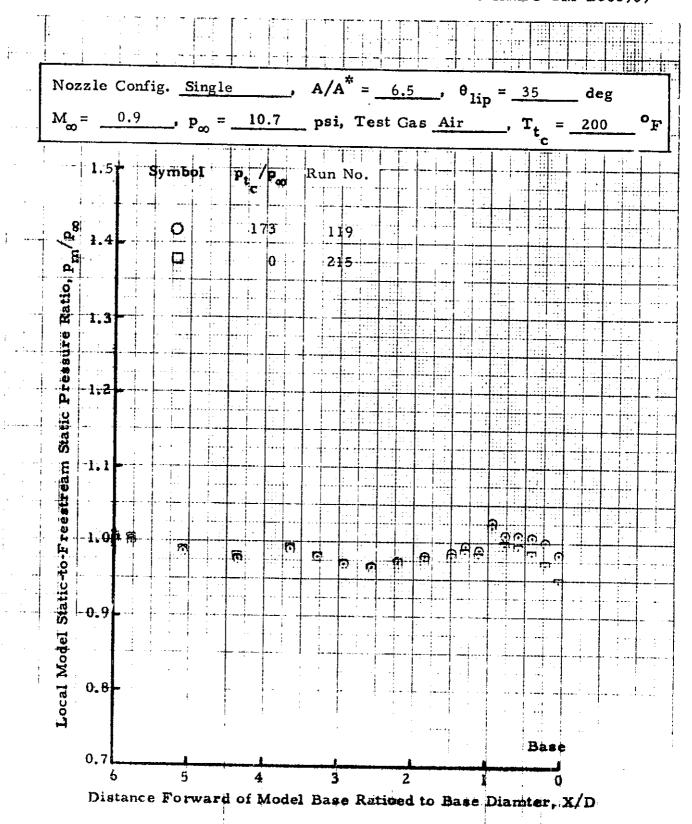
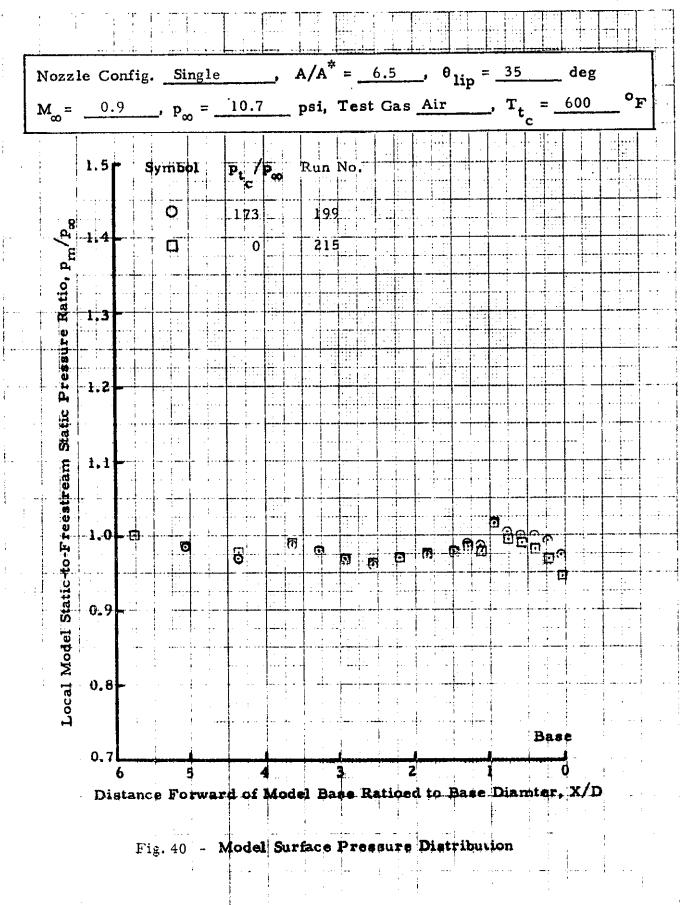
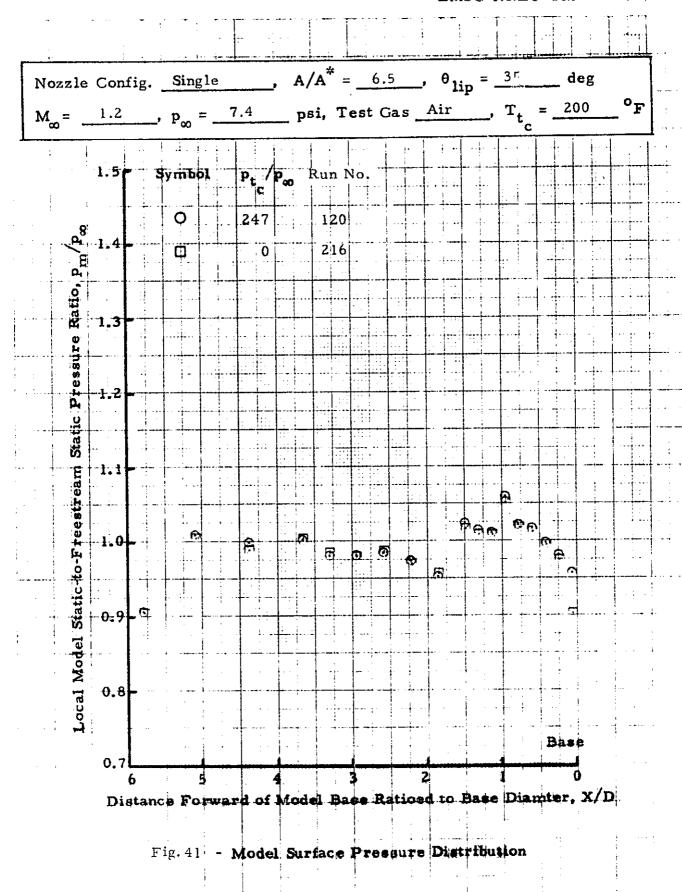


Fig. 39 - Model Surface Pressure Distribution





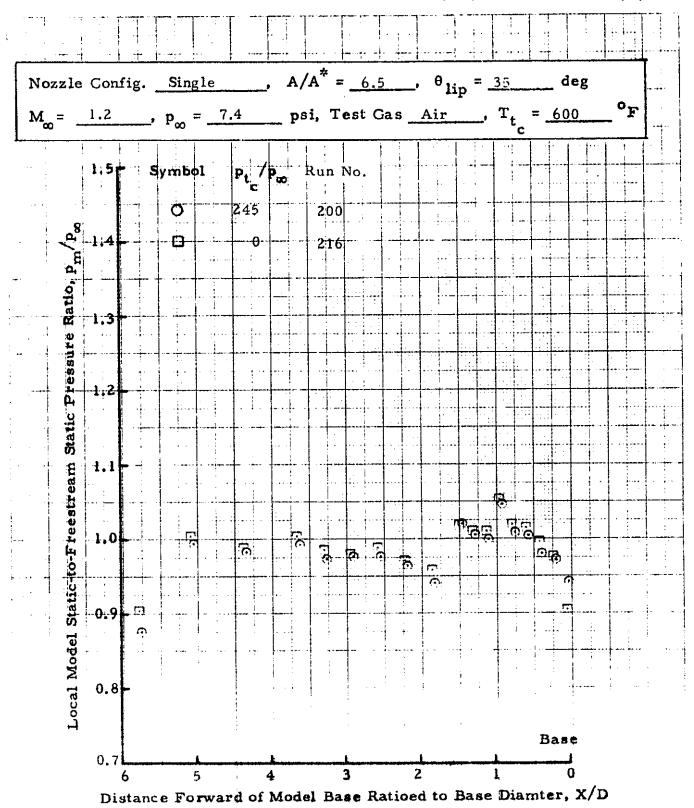


Fig. 42 - Model Surface Pressure Distribution

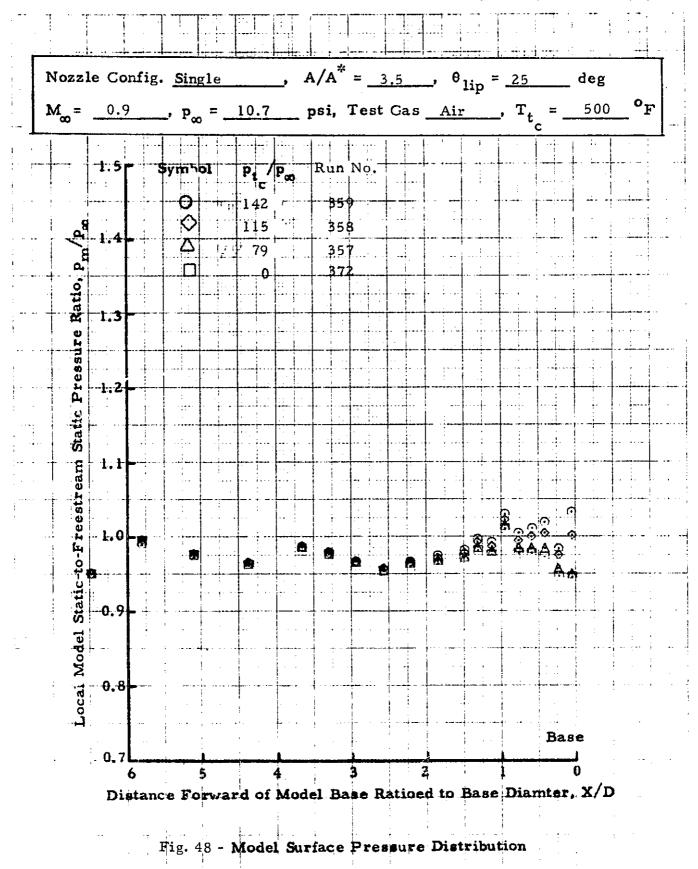
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Nozzle Config. Single ,  $A/A^{*} = 6.5$  ,  $\theta_{lip} = 35$  $M_{\infty} = 3.48$ ,  $p_{\infty} = 1.2$  psi, Test Gas Air,  $T_{t_c}$ 1.5 Symbol Ptc/Pc Run No. 1529 130 218 1.3 1.2 Distance Forward of Model Base Ratioed to Base Diamter, X/D Fig. 45 - Model Surface Pressure Distribution

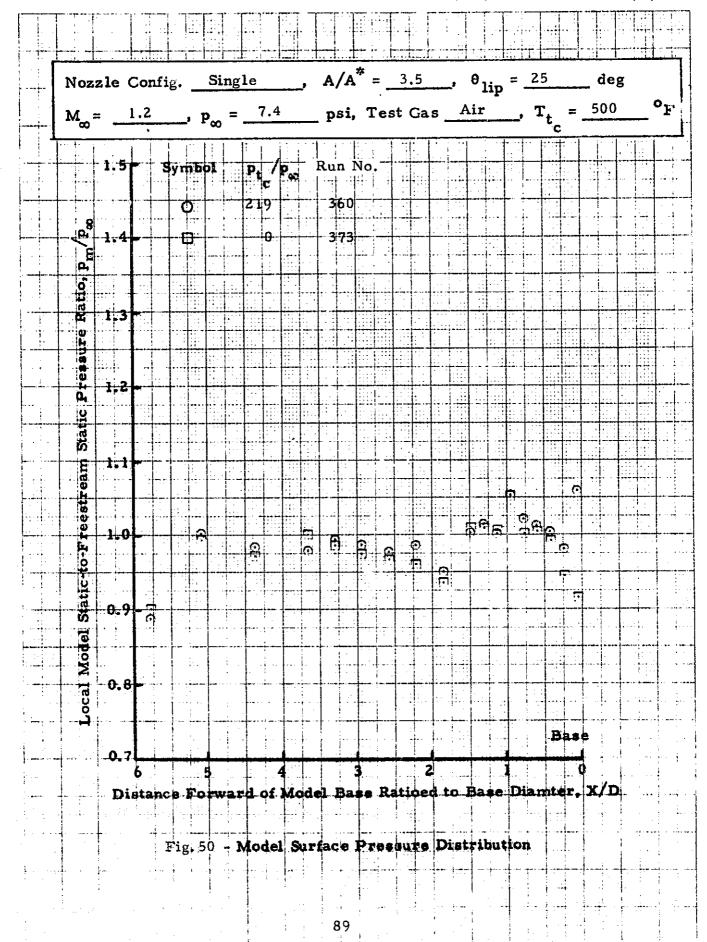
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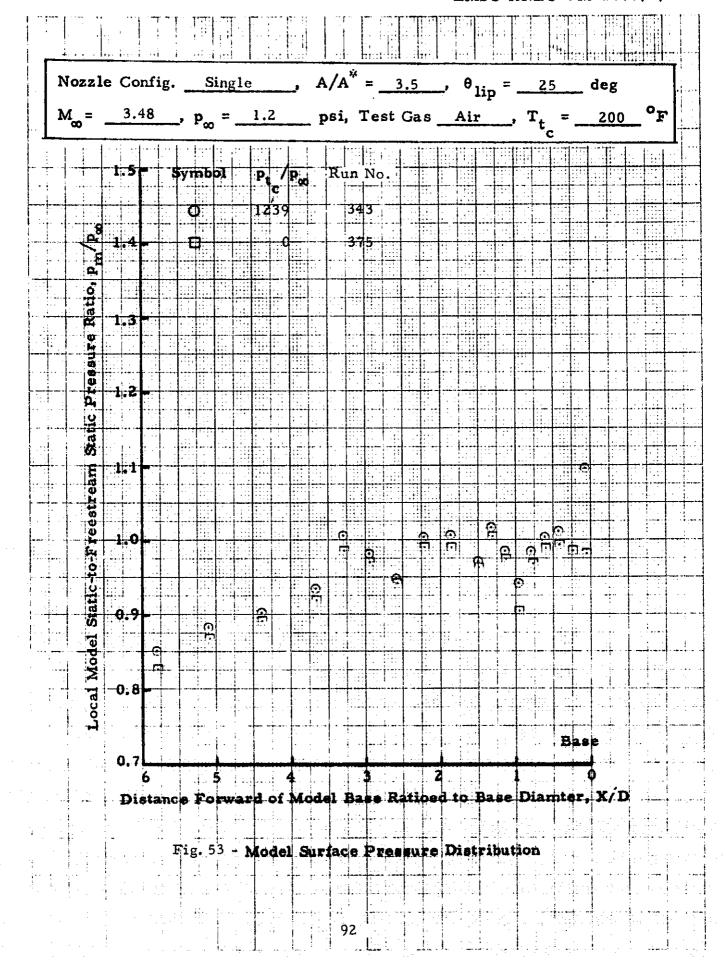
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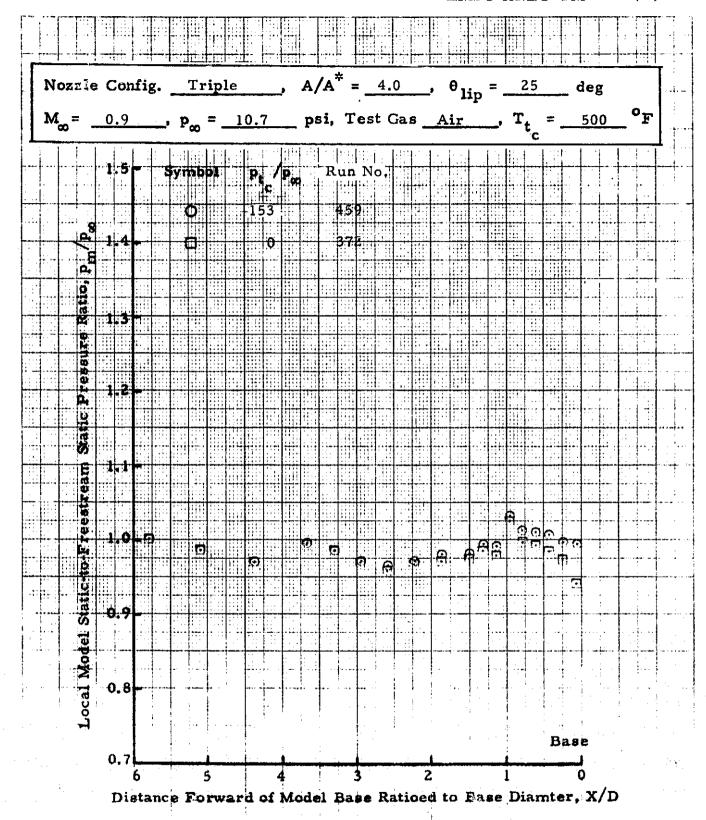
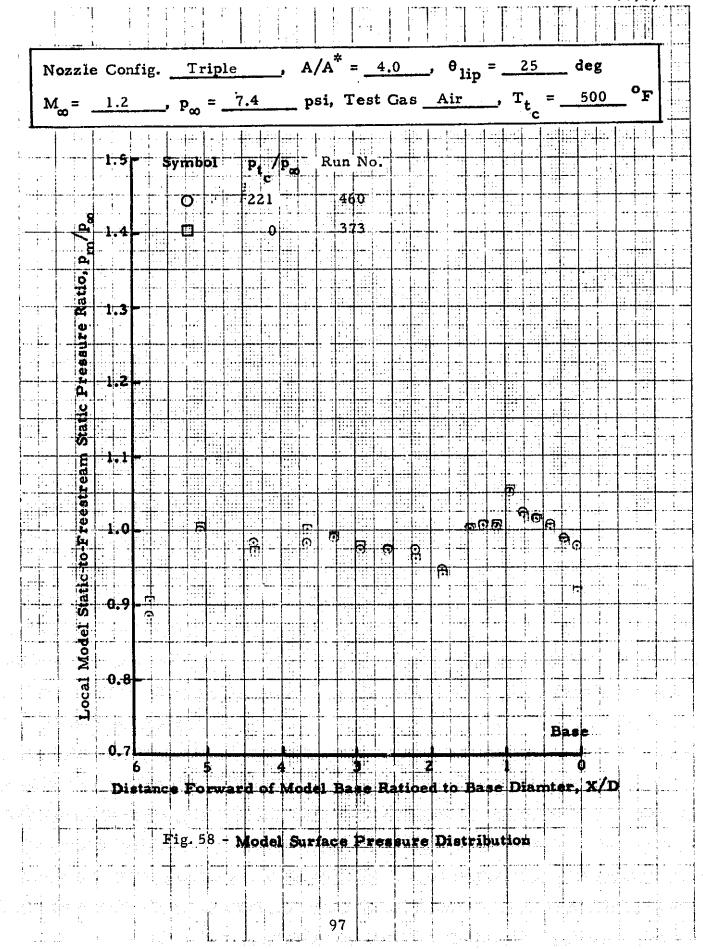


Fig. 56 - Model Surface Pressure Distribution

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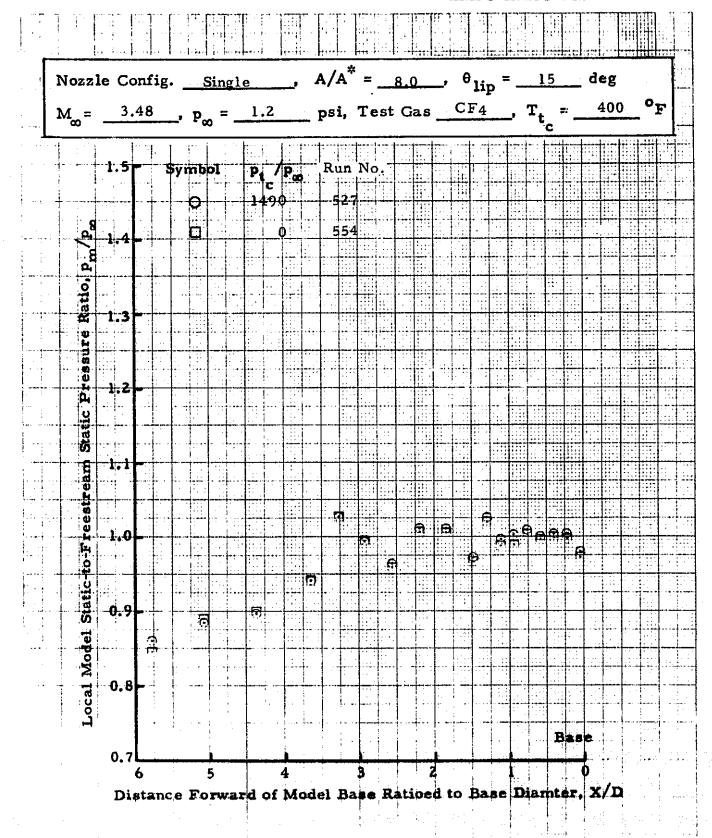


Fig. 66 - Model Surface Pressure Distribution

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		T	Model Base-to-Freestream Static Pressure Ratio, p./p.	Model Base-to-Freestream Static Fressure Ratio, p. / p.	Test Gas Pressure Ratio Do Do Do Do Do Do Do Do Do Do Do Do Do	Test Gas Air Pressure Tar  1.8  1.8  1.7  0.1.7  0.1.7  1.8  1.8  1.7  0.9  0.9  0.8  0.9  0.8  0.7  0.6  Model Ch	Test Gas Air Pressure Tap N  1.8 S  1.7 S  1	Test Gas Air Pressure Tap No.    1.8	Test Gas Air Pressure Tap No. 3  1.8 Symbol  1.7 A  A  Od. Od. Od. Od. Od. Od. Od. Od. Od. Od.	Test Gas Air M Pressure Tap No. 39    1.8   Symbol     1.	Test Gas Air	Test Gas Air	Test Gas Air M = 0.9  Pressure Tap No. 39  1.8 Symbol T (PF)  200 F  300 F  400 F  400 F  600 F  60 1.5	Test Gas Air	Test Gas Air	Test Gas Air	Test Gas Air , M = 0.9 , P = 1.8   Symbol   T   (PF)	Nozzle Config. Single	Nozzle Config. Single A/A* = 6.5 → θ <sub>lip</sub> Test Gas Air → M <sub>∞</sub> = 0.9 → P <sub>∞</sub> = 10.7  Pressure Tap No. 39 → 300°F → 300	Nozzle Config. Single , A/A* = 6.5 , 9 lip = -  Test Gas Air , M = 0.9 , p = 10.7 p  Pressure Tap No. 39    1.8	Nozzle ConfigSingle, A/A* = 6.5, \theta_{lip} = _3	Nozzle Config. Single A/A* = 6.5 9 <sub>lip</sub> = 35  Test Gas Air Mo = 0.9 po = 10.7 psi  Pressure Tap No. 39  1.8 Symbol T PF	Nozzle Config. Single A/A* = 6.5 9 <sub>lip</sub> = 35 de  Test Gas Air Mo = 0.9 po = 10.7 psi  Pressure Tap No. 39  1.8 Symbol T PF	Nozzle Config. Single A/A* = 6.5 Plip = 35 deg,  Test Gas Air Mo = 0.9 Po = 10.7 psi  Pressure Tap No. 39    Symbol Tap Pp	Nozzle Config. Single , A/A* = 6.5 , 0 1 p = 35 deg,  Test Gas Air , M = 0.9 , p = 10.7 psi  Pressure Tap No. 39  1.8	Test Gas Air

 $A/A^* = 6.5$ Nozzle Config. Single deg, Test Gas Air Pressure Tap No. Symbol 1.8 TOOP 600°F Base-to-Freestream Static Pressure Ratio, p b p 1,4 1:0 0.9 0.8 ··0:?-0.6 0.5 400 600 800 1000 1200 1400 1600 Model Chamber to Freestream Static Pressure Ratio, Pc/P Model Base Pressure Variation

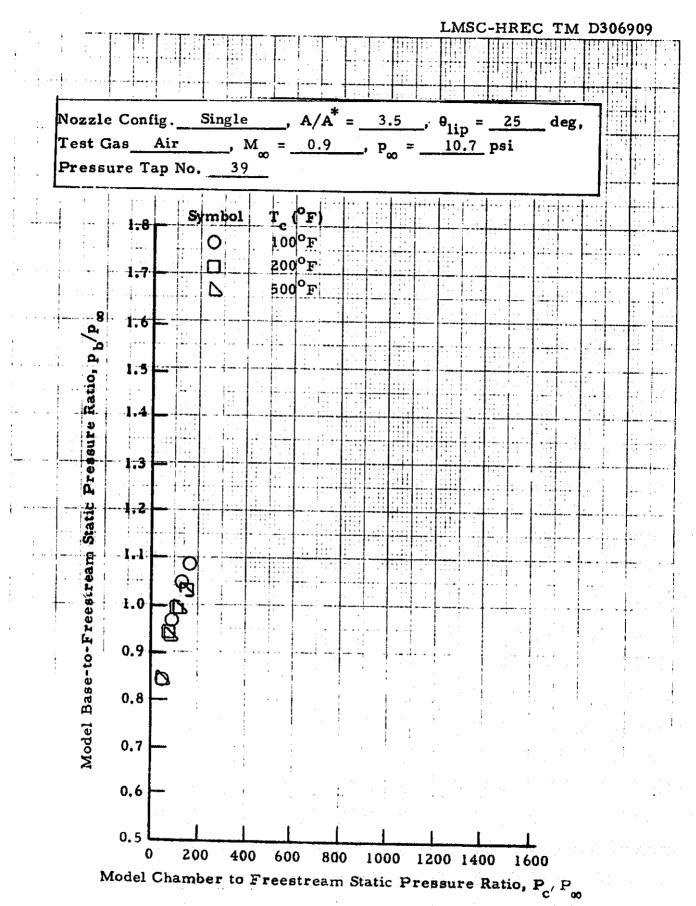


Fig. 76 - Model Base Pressure Variation

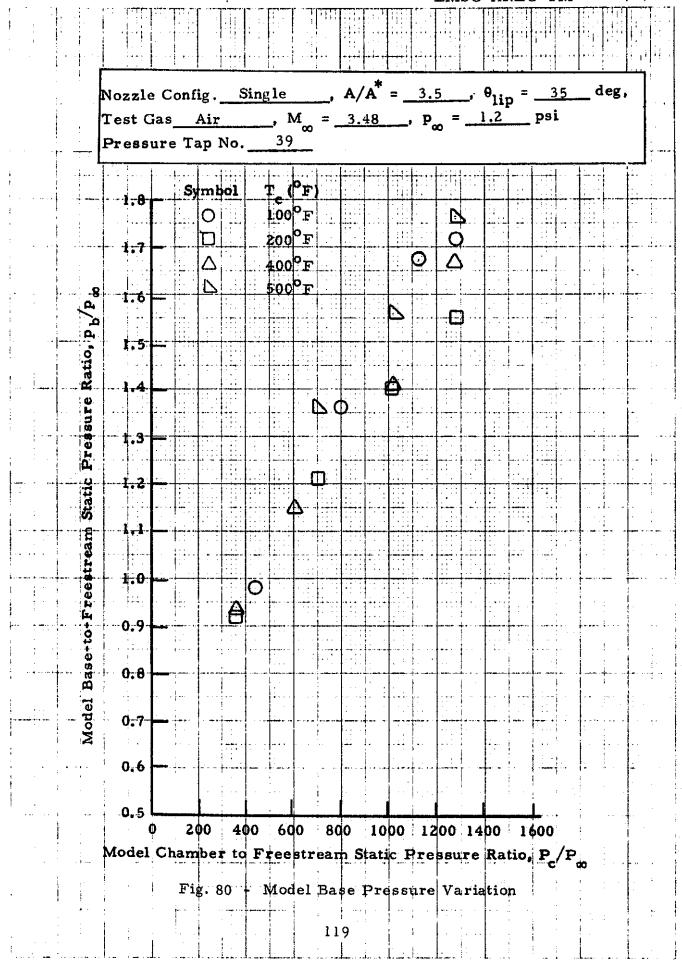
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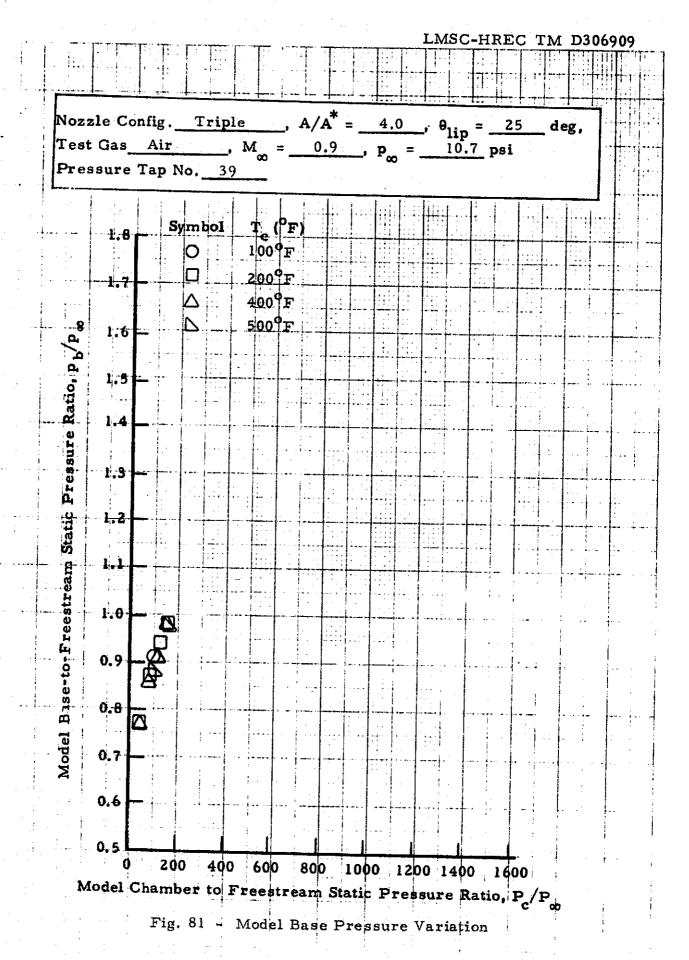
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Fig. 78 - Model Base Pressure Variation

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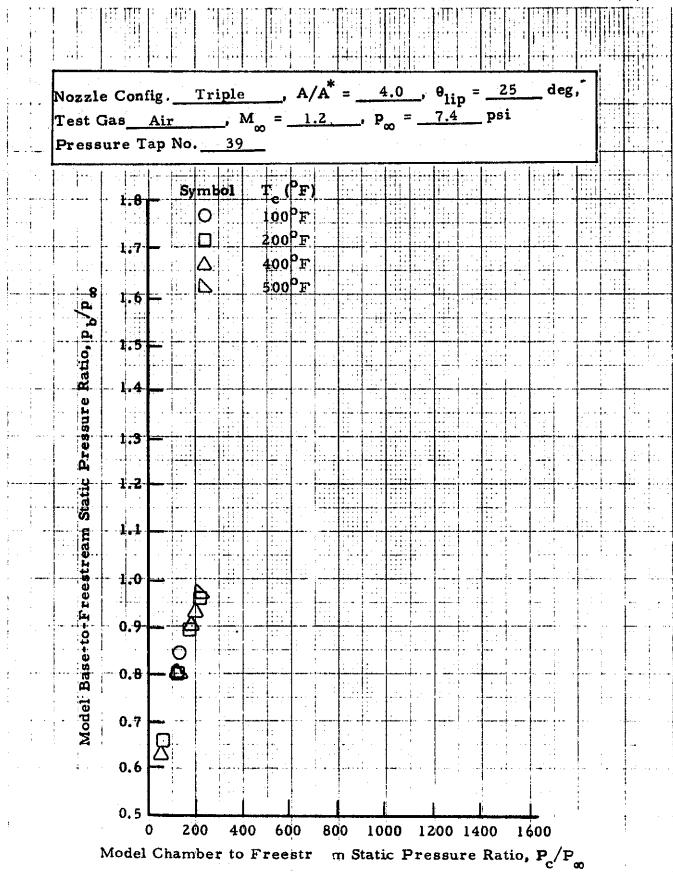
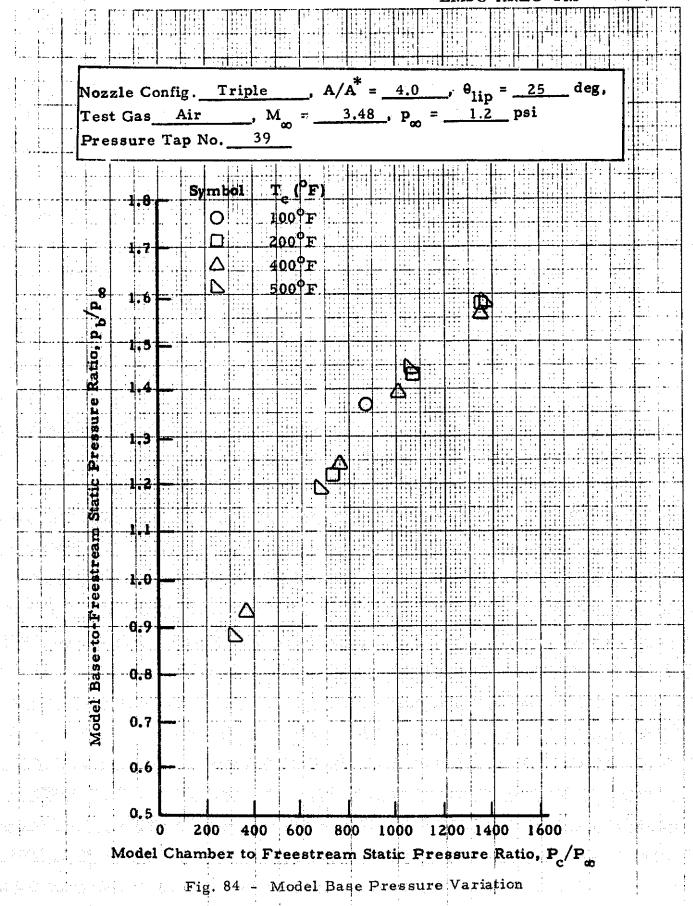


Fig. 82 - Model Base Pressure Variation



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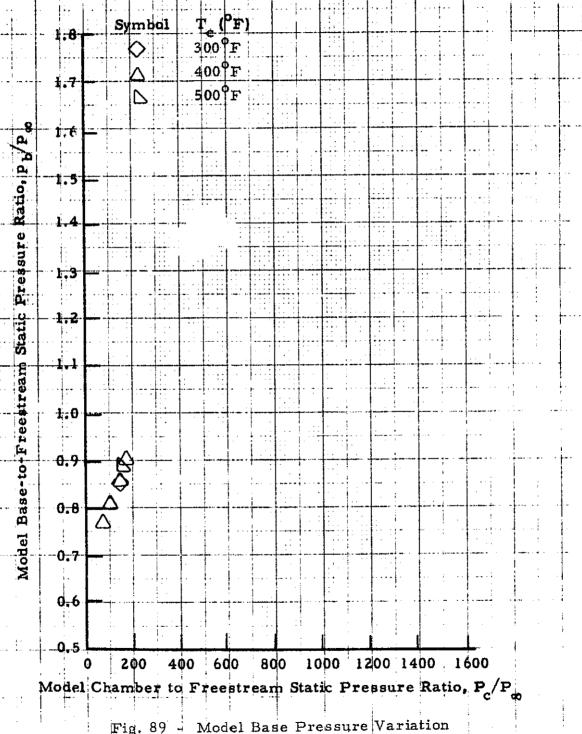
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Nozzle Config. Triple ,  $A/A^* = 8.0$  ,  $\theta_{lip} = 15$  deg, Test Gas  $CF_4$  ,  $M_{\infty} = 0.9$  ,  $p_{\infty} = 10.7$  psi Pressure Tap No. 39



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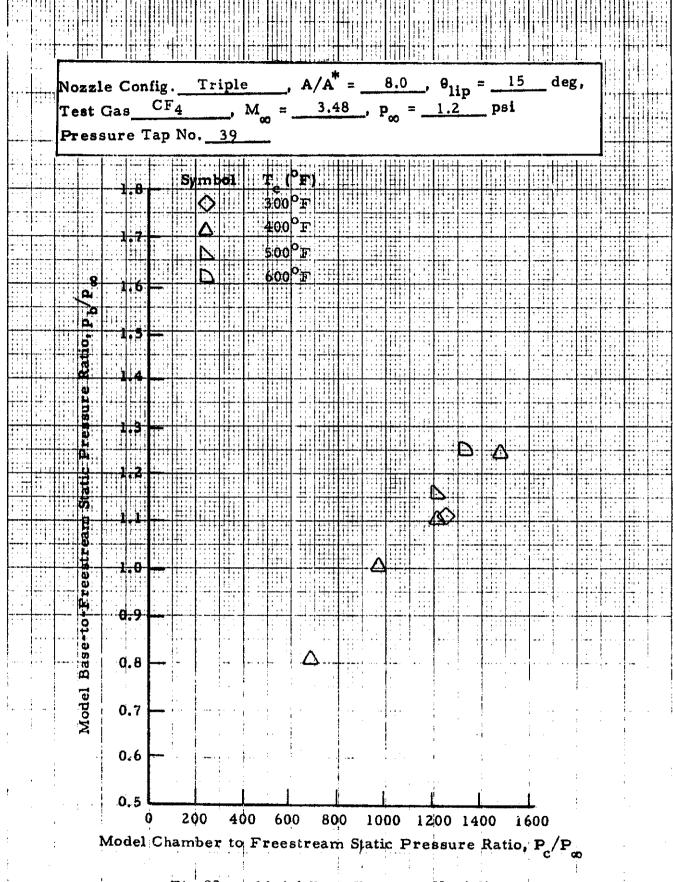


Fig. 92 - Model Base Pressure Variation

## Appendix A PLUME TECHNOLOGY TEST TABULAR PRESSURE DATA



## NOMENCLATURE

ALPHA

model angle of attack, zero deg

AVERAGE

MODEL NOZZLE

PARAMETERS

time averaged value of model nozzle

parameters

BETA

model angle of yaw, zero deg

FRAME

scanivalve port position

FR

frame

MACH

freestream Mach number

NO

static pressure port number

PS, PSA

freestream static pressure (psia)

PTC

model plenum chamber total pressure (psia)

PT

freestream total pressure (psia)

PSC

model plenum chamber static pressure (psia)

PSM/PSA

model surface or base pressure ratioed to free-

stream static pressure

PSN()/PTC

nozzle static pressure ratioed to model plenum chamber pressure, tubes 44 through 49 for cali-

bration phase only

P47/PTC

nozzle tap 47 static pressure ratioed to model

plenum chamber total pressure

Q

freestream dynamic pressure (psia)

R/L

Reynolds number per foot x 10<sup>-6</sup> (1/ft)

ROLL

model roll angle, zero deg

SKIN()

model skin temperature (°F)

TEMP

freestream total temperature (°F)

TC, TCH

model plenum chamber total temperature (OF)

## Appendix A

This appendix presents the two types of gaseous plume data obtained during the program, quiescent calibration points and nonquiescent test points.

Thermocouple number 5 was used during Runs 101 through 114. For all subsequent runs the data for SKIN(5) should be disregarded. The callouts "Heater Total Pressure" and "Heater Total Temperature" refer to the pressure and temperature set in the heater, not the values measured in the model which were different due to line losses from the heater to the model. Table 9 presents a summary of the calibration runs made for the various nozzle configurations, and detailed run log with any qualifying comments pertinent to each data point is presented in Table 11.

During the nonquiescent phase of the test the nozzle static pressure tubes were removed with the exception of those specified in the model description portion of this report. Model surface and base pressures were monitored as well as the model surface temperatures and chamber conditions.

A summary of the nonquiescent gaseous runs made for the various configurations is given in Table 10 and a detailed run log with any qualifying comments pertinent to each data point is presented in Table 11. The reader is cautioned to not use the aft surface pressure and base pressure data at Mach numbers of 0.9, 1.2 and 1.46 when schlieren photographs were being taken. This is due to the effects of the glass walls as opposed to the porous wall as discussed in Section 5. Runs during which schlieren photographs were made are denoted by the three-digit run number followed by a nonzero integer after the slash mark, e.g., run 164/0 was a pressure run at  $M_{\infty} = 1.2$  but run 164/1 indicates that a schlieren photograph was being made thereby negating the surface and base pressure values for this data point. Also in using these

data one should be aware that the tabulated pressures are only valid for the frame during which they were recorded (frame refers to the Scanivalve port position (see Table 2)). In most cases the value printed in this appendix would be applicable to the whole run because the model exhaust total pressure and the freestream pressure were virtually constant during the time of data acquisition, e.g., run 161/0. However, for many of the high chamber pressure points in which the 3.5 area ratio nozzles were tested, there was insufficient capacity in the heater's hot tank to maintain a constant model chamber pressure, e.g., run 320/0. For these cases one should consider the measured base or surface pressure as being valid only for the frame in which it was recorded and use the model chamber pressure corresponding to that frame.

ALPHA" STEE

TURNEL STATIS PRESSURES 1,089

2 AUGUST	<u>19</u> 73	<u>.</u>			LOGY TEST			LE, ALABAMA ATION PHASE		TEST 575	RUN 181/
		***	••••••		18	MPERATU	RE DATA	-DEGREES FAI	RENHE! \$		
FRAHE	PSA	PTC	SKIN[1]	SKIN		[NE3]	SKIN[4]		HOBEL-STING		ŤCH
1	1.06	114,88	76.1	77	7.0	77.0	77,4	75.6	71.7	75.4	78.7
5	1.07	119.93	75.6	76	5.5	77.0	77.4	75.2	71.7	73.9	79.2
- 3	1.10	115.93	76.1	7:	5.6	76.1	77.6	74.3	71.2	73.9	79.6
4	1-10	114.46	76.1	79	5,6	76,5	77.6	74.3	71.2	75.6	79.6
5	1.12	116,46	75,4	71	5.6	76.5	77.0	74.8	71.7	76.1	88.5
<u> </u>	<u>,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,</u>	· · · · · · · · · · · · · · · · · · ·					<del></del>	- <del></del>			<del></del>
FRANE	PTC	PSC		TC PS	1(44)/PTC	PSN (45)	I/PTC PSHI	461/PTC PS	IE473/PTC PER	u(481/PTC PSm	1491/PTC
ž. <b>1</b>	. 243,30	114.35		84.0	4.81971	8.6	1,484	0.6334	0-67175	0281249	8.12066
. 3	224,35	114,35		80.9	8.81574	9.0	01012	8.01102	0.01102	0.61242	6.12558
3	, 114.35	115.40		88.9	0.01574	0.0	11023	0.01111	0.01120	0.01251	9-13558
4	125.95	112,93		82.2	0.01576	8.0	11009	0.01113	0.01104	8.01234	6.12396
- 5	114.88	115.40		81.8	8.01985	0.1	01827	0.01123	0.732.53	8.019\$4	8,12501

HEATER TOTAL TEMPERATURES SEE.

HEATER TOTAL PRESSURE: 204.

[973		HSFC PLUME	TRISONIC I	HIND TUNNEL Y TEST NO	HUMTSVIL ZZLE CALIBR		····	TEST 575	RUM 192/
,				TEMPERA	TURE DATA	-DEGREES FAI	HRENHEIT		
PSA	PTC	SKIN[1]	SKIN(2)	SKIN[3]	SKIN(4)	SKIN(5)	MODEL-STING	FEEDER-PIPE	TCH
0.72	269,75	82.7	63.1	83,6	82.2	81,4	86.9	94.6	93.2
0.74	279.28	82.7	83,6	84.0	83.1	82.2	62.2	96.3	94.1
0.76	271.33	83.1	84.8	84.4	83.1	83.1	82.7	97.2	95,4
0.78	275,54	82.2	82.2	83.1	82.7	82.2	82.7	97.2	96.3
0.80	288.70	82.7	82.2	83.6	82.7	82.7	83.6	98.5	98.1
	•							-	
PTC	PSC	······································	TC PSN[4	4)/PTC PSNL	451/PTC PSN	[46]/PTC P8	N(471/PTC PS	N(44)/PTC PSN	[49]/PTC
265.70	269.75		94.6	41755	0.01848	0.01122	0.01130	0.61294	6.05399
264.79	268,70		95.4 6	.01755	0.01048	0.01122	8.61126	0.01290	0.05395
269.75	249,75		96.8 0	41752	0.81948	0.01122	0.01125	0.01286	8.85374
274,49	274,49	,	97.6	.01740	0.83844	0.01117	0.01121	9.81584	8.45281
287.64	286,59	,	99.4	81754	0.01834	0.01114	8.01114	0.01201	4.45436
	PSA 0.72 0.74 0.76 0.78 0.88 PTC \$88.76 268.78 269.75	PSA PTC  0.72 269.75  0.74 279.28  0.76 271.33  0.78 275.54  0.80 288.70  PTC PSC  268.70 269.75  268.76 268.70  269.75 269.75  274.49 274.49	PLUME  PSA PTC SKIN[1]  0.72 269.75 82.7  0.74 279.28 82.7  0.76 271.33 83.1  0.78 275.54 82.2  0.80 288.70 82.7  PTC PSC  \$85.70 269.75  268.78 268.70  269.75 249.75	PLUME TECHNOLOS  PSA PTC SKIN[1] SKIN[2]  0.72 269.75 82.7 83.1  0.74 278.28 82.7 83.6  0.76 271.33 83.1 84.8  0.78 275.94 82.2 82.2  0.80 288.70 82.7 82.2  PTC PSC TC PSN[4]  \$68.70 \$269.75 94.6 8  268.78 268.70 95.4 8  269.75 269.75 96.8 0	PLUME TECHNOLOGY TEST NO	PLUME TECHNOLOGY TEST NOZZLE CALIGN	PLUME TECHNOLOGY TEST NOZZEE CALIBRATION PHASE TEMPERATURE DATADEGREES FAI PSA PTC SKIN[1] SKIN[2] SKIN[3] SKIN[4] SKIN[5]  0.72 269.75 82.7 83.1 83.6 82.2 81.4  0.74 270.28 82.7 83.6 84.0 83.1 82.2  0.76 271.33 83.1 84.8 84.4 83.1 83.1  0.78 275.54 82.2 82.2 83.1 82.7 82.2  0.80 288.70 82.7 82.2 83.6 82.7 82.7  PTC PSC TC PSN[44]/PTC PSN[45]/PTC PSN[46]/PTC PSN[	PLUME TECHNOLOGY TEST NOZZLE CALIBRATION PHASE	PLUME TECHNOLOGY TEST NOZZLE CALIBRATION PHASE



02 AUGUST	19/3		MSFC T	RISONIC WI	ND TUNNEL	HUNTSVILL	E. ALABAMA		TEST 575	RUN 103/
	<u></u>	· <del></del> -	PLUME T	ECHNOLOBY	TEST NOZZ	LE CALIBRA	TION PHASE			
	"				TEMPEDATI	DE DATAGOS	DEGREES FAH	RENNETT		
FRAME	PSA	PTC	SKIN(1)	SKIN(2)	SKIN(3)	SKIN(41	SKIN(5)	HODEL-STING	FEEDER-PIPE	TCH
	0.53	467,64	85.4	85.3	85.3	84.9	84.4	84.0	96.3	96.8
2	0.56	466,59	85.6	84.4	85.3	84.9	84.4	84.4	97.6	98.1
3	0.50	478.80	85.3	84.4	85.3	84,9	85.3	89.0	99.8	180.3
•	0.62	472.38	85.3	84.4	85,3	84.9	85.3	56.2	101.6	192.0
5	0,64	474,49	85.3	85,8	85.8	85.3	87.1	88.8	104.2	193,8
					7000 Bani 70	LIBTE BENE	AA1#BYE BEN	ILAZIARTE BEN	(481/PTC PSN	1491/PTC
FRAME	PTC	PSC	· tc					0.01119	0.61288	0.03105
1	467.12	468.1			-		0.01114			
	465,54	468,0	l 99	.0 0.0	1.064 .		0.21116	0.01127	0.41276	8.03114
3	469.22	469,7	5 101	.2 1.1	1798 0.	01022	8.01112	0.01115	0.01291	0.83087
4	472.48	471.3	3 183	8.4	1796 0.	81055	0.01113	0.81117	0.91290	0.03071
5	473,43	473,9	5 195	.6 9.0	11799 ··	61856	0.01114	0.61128	8,81294	8.43062
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FRAHE	PSA	PTC S	K[N[1]	SKIN[2]	SKIN[3]	SKIN[4]	SKIN(5)	HODEL-STING	FEEDER-PIPE	TEH
	0.44	928.70	88.0	88.0	87.5	87.1	89,3	91.5	107.6	110.0
5	0.47	928.17	88.4	87.1	87.1	88.0	90.2	93.2	119.4	111.3
3	0.50	936.06	88,8	87.5	87.5	88.0	90.6	95.0	113.5	113.5
<del></del>	0.53	938.70	88.0	88.0	87.5	88.0	95.2	97.2	215.7	116.1
<u>-</u>	0.55	942,91	88.4	87.5	87.5	80.4	94.6	99.0	117.0	117.0
							Tarl vette moi	7.71.75 <b>7</b> F 641	I(481/PTC PSN	1491/970
FRAME	PTC	PSC	TC						8.81244	8.81566
1	927.12	925,54	111.	7 6.8	•		0.01681	9.01085		
5	927.64	921.85	112.	6 9.8	·	26976	0.81083	0.61993	0.01250	0.01563
3	935.01	934.49	115.	2 0.0	1317 0	48973	6.01978	0.01089	1.01244	0.61551
4	936,59	931.65	117,	4 0,0	1306 0	88976	0.01682	0.81092	0,01247	0.01550
5	941,33	933.96	117.	9 8.5	1295	.00973	8.01879	8.81689	0.61246	0.01541
TUNNEL ST	ATIC PRESSU	RE* 0.500	HEATER	TOTAL PRE	85URE* 100	. HEA	TER TOTAL TO	MPERATUREO :	125. ALPI	¥ -4.42
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<del>_</del>					TENDERATI	IRE DATA	DEGREES FAH	ENHELT		TCH
FRAME	PSA	PTC	SKIN(1)	SKIN[2]	SK [ N [ 3 ]	SKIN[4]	SKIN[5]	ODEL-STING		
	0.36	1379.75	90.2	89.7	90.2	90.6	91.9	96.8	111.3	113.0
	0.42	1386,59	90.2	89.3	90.2	90.6	93.2	98.5	114.4	
	0.46	1358.17	90.6	90.2	98.6	91.0	95.0	108.7	116.1	116.1
	0.51	1293.96	90.2	89.7	90.2	91.5	96.3	102.5	116.1	114.8
4	0.56	1246.59	89.7	90.6	90.2	91.9	98.5	104.2	115.2	114,4
	PTC	PSC	70	P\$H(44	J/PTC PSNE4	5)/PTC PSN	461/PTC PSN	[47]/PTC PSN	1[48]/PTC PSN	(49)/PTC
FRAME						.08947	8,81054	0.01081	8,01218	8.81052
1	1379.22					.88946	8.81849	0.01076	0.01205	0.01046
5	1388.17			-		.86949	0.01051	8.91081	0.41712	0.21668
3	1358.17				• • •	.86959	0.01068	0.01058	0.01222	8.61119
4	1295.91	4			~~	.08955	0.01058	0.01886	0.01218	0.01162
5	1247.12	2 1239.27	2 11	4.8	46366					
TUNNEL ST	ATIC PRESSI	URE 0,467	HEATE	R TOTAL PA	15 - 15 - 15 - 15 - 15 - 15 - 15 - 15 -	16. HEA	TER TOTAL TO	HPERATURES	125. ALF	HA= -0.82
									<u> </u>	

o describidado como esta pede o como decesto de encadarse administração do como establica destablica de actual

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DZ AUGUST	19/3		PLUME 1	TRISONIC NI	ND TUNNEL TEST NOZZ	LE CALIBRA	E, ALABAMA Tion Phase			
						<u></u>				
					TEMPERATU	RE DATA	DEGREES AM	ODFL-STING	FEEDER-PIPE	TCH
FRAHE	PSA	PTC S	SKIN[1]	SKIN(2)	BKIN[3]				89.7	99.4
	0.34	1622.38	79.2	79.2	78.3	78.3	77.8	78.3		_
	0.32	1601.33	78.7	78,7	77.8	77.8	78.3	89.9	97.2	104.7
2			76.3	78.7	77.8	77.8	60.0	83.6	102.5	106.9
5	0.35	1755.01		<u> </u>	77.8	78.3	81.4	86.2	183.8	195.6
4	0.39	1659.28	78.7	77.8				88.8	102.5	184.2
5	0.45	1503.43	79.2	76.3	77.8	78.3	83.1	00.0		
				ment sa	1 MTC BENIA	SI/PTC PSN	1461/PTC PSA	(471/PTC PSP	(48) /PTC PSI	N(49)/PTC
FRAME	PTC	PSC					0.01010	0.01042	0.81159	0.08794
1	1625.01	1813.96	10	1.2 5.		.49950			0.01147	9.00004
	1842.38	1792.91	10	6.6 8.	01724 0	.48955	0.01618	0.01047		-
3	1753.43		10	8.2 0.	01782 0	.80934	0.01615	0.01048	6. \$1166	9.00826
					81739 0	.08964	0.01027	0.01059	0.01179	8.48876
4	1654.49	· · · · · · · · · · · · · · · · · · ·				.68950	0.61624	0.91055	0,81175	9,90914
5	1986.07	1581.8	, 10 	15.6 G.	47.94			· · ·	1 F	
					ESSURE 200	A. 1487	TER TOTAL T	HPERATURE#	120. ALF	HA= 0.80
TUNNEL ST	ATIC PRESSI	UAE# 0.369	HEATE	ER TOTAL FR	169204E. 584					
					·					
							<u> </u>			
<u></u>		· · · · · · · · · · · · · · · · · · ·								
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							ATTENTED TO L	E. LABANA		TEST 575	PUN 107/0
A2 AUGUST 1	1973	<del>.</del>	MSFC	TRISON	IC WIL	YD TUNNEL TEST NO	ZZLE CALIBRA	TION PHASE			
										_	
						TEMPERA	TURE DATA	DEGREES FAH	RENHEIT	CENER-PIPE	CH
	PSA	PTC	SKIN[1]	SKII	N ( 2 )	SKINIZI	SKINT4)	2KINI21	HODER-SIEMS		- : <del></del>
FRANE	FSA					205.0	208.5	258.2	462.0	447.0	446.1
2	0.32	1740.26	164.5		01.9	_		276.3	460.2	456.7	453.2
3	0.32	1788.70	165.4	2	03.2	205.4			459.3	467.2	458.9
	0.33	1618.70	165.8	2	04.6	206.	214,2	293.9			461.5
	0.35	1801.85	167.6		06.6	207.6	217.3	388.4	458.4	475.6	
		PSC		TC P	SN [ 44 ]	/PTC PSN	491/PTC PSN	1461/PTC PSN	(471/PTC PSA	(48)/PTC PSN	(49]/PIC
FRANE	PTC			443.5		1763	8.88985	0.01024	0.01062	0.81195	0.00843
1	1704.59		•				6.86791	0.01031	0.01866	0.81201	0.00835
5	1732.9	1 1782.3	8	445.7		11792		0,61020	0.01055	0.01188	0,40810
	1788,17	7 1779.7	5	452,7	9.	1772	0.4298			0.01187	0.00795
	1828.2	8 1611.8	5	458.4	0.	01768	6.88979	0.41619	0.01055		4.00807
<u>-</u>	1796.9	· · · · · · · · · · · · · · · · · · ·		462.0	0,	01773	0.80962	0.81925	0.01058	0.01149	4.500.
5	134413										
	ATTO MORCE	URE 0.330	NE (	ATER TO	TAL PR	ESSURE- 1	988. HE	TER TOTAL T	ENPERATURE.	530. ALP	HA= -0.02
		10MC= V1401									
TUNNEL ST				<u></u>							
TUNNEL ST										· · · · · · · · · · · · · · · · · · ·	
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	O2 AUGUST	1973		HSFC	TRISONIC WI	IND TUNNEL Test Nozz	HUNTSVILL	E, ALABAMA		TEST 575	RUN 108/0
				PLUME	TECHNOLOGY	1621 MOSE	FE CWFIDMA				
						TEMPERATU	RE DATA	DEGREES FAH	RENHE! T	******	
	FRAME	PSA	PTC	SKINIII	SKIN(S)	SKIN[3]	SKIN[4]	SKIN(5)	MODEL-STING	FEEDER-: IPE	TCH
	1	0.49	208.17	232.3	259.6	253.4	249.0	270.1	496,3	454.5	441.7
		0.51	210,28	232.3	260.4	254.3	249.4	275.4	494.1	449.6	441.3
		0,53	211.33	232.3	259.6	253.4	249.4	278.9	498.1	441.7	439.1
	4	0.55	211.33	232.7	260.0	253.4	249.9	284.6	487.5	437.3	437.3
	5	0.58	213,96	233.2	242.2	254.3	251.6	290.4	485.7	432.9	435.6
	FRANE	PTC	PSC		TC PENE44	)/PTC P8N(45	I/PTC PSH	461/PTC PSN		(14817FTC PSN	
	, 1	267,12	205.5	44	14.3 4.0	01760 0.	01075	8.81123	0.01147	6.01267	0.86994
· ·	5	£09,22	294.5	9 44	18.8 4.0	<b>91752</b> 8.	81869	0.81126	0.01148	6,41279	*, 86924
	3	289.22	287.6	43	19.1 <b>0</b> .0	11771 8	61883	0.01135	0.01155	6.01293	0.06924
	4	210.28	200.1	7 == 1	36.9 0.1	8±772 8.	<b>01682</b>	9.61139	8.61154	0,01296	0.06557
<b>.</b> –	5	213.96	211.3	3 47	15.6 04	01755 B	01273	8.01129	0.81343	9.41279	0.86775
				<del></del>				<u> </u>			
	THUMBS TO	TIC PRESSU	NE <b>- 0.</b> 933	HEAT	ER TOTAL PR	E\$\$URE+ 240	. HEAT	ER TOTAL T	HERATURES !	ALP	N= -8.42
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	03 AUGUST	1973		MSFC PLUME	TRISONIC WI	ND TUNNEL Test NOZZ	HUMTSVILL LE CALIBRA	E, ALABAMA Tion Phase		TEST 575	RUN 109/0
								DECDESC FAU	PENHETTALES	CEDER-PIPE	
					SKIH(2)	SKIN[3]	SKINI41	SKINI51	IDDEL-STING	FEDER-PIPE	TCH
	FRAME	PSA	PTC	SKIN[1]	2KIMIE1	3414101	on the co				464.2
	<u> </u>	0.53	402.91	227.4	256.9	260.0	264.4	283.3	495.0	518.3	465.9
	2	0,55	406.59	227.9	257.4	259.6	264,4	289.5	494.1	505.1	
		0.57	413.96	226.6	258,7	260.4	265.3	297.8	493.2	495.0	467.2
		0.59	414,49	228.3	. 258.2	260.0	265.3	384.4	492.3	487.9	469.0
	5	26.0	416,59	229.2	259,6	260.9	267.0	311.5	491.0	483.5	468.1
	FRAHE	PTC	PSC 397.6				.01020	0.01053	6.01863	461/PTC PSN 8.61227	0.03600
	FRANE	PTC	PSC	_							
	1	402.38				-		0.01059	0.01667	0.61229	0.03574
Ť	2	483.54	491.3	41	6.4	·				0.01222	<b>8.8352</b> 2
	3	411.33	407.6	1 4	17.2 6.	81749 0	.01625	8.01652	0.01864		6.62266
	4	412.91	489,2	2 46	18.1	01757	.41931	9.01455	0.01072	0.01232	
jin Tari	5	415.54	411.3	3 4(	<del> 0.1                                    </del>	01761	.01031	9.01658	0.02067	4.41229	0,63484
		409.5				··-·					
Ē.		400									/A= 0.80
	TUNNEL ST	ATIC PRESSU	RE- 0.570	HEAT	IN TOTAL PI	###URE 4	io. Hea	TER TOTAL TI	MPERATURES (	SEF, ALPI	MA= 4.44
	TUNNEL ST	ATIC PRESSU	NE- 0.570	HEAT	TOTAL PI	HESSURES 4	ie. HEA	TER TOTAL FI	PPERATURES (	ose, alri	4.00
	TUNNEL ST	ATIC PRESSU	NE= 0.570	HEAT	TOTAL P	###### 41	io. Hea	TER TOTAL T	IMPERATURES (	188, ALPI	142 4.00
	TUNNEL ST	ATIC PRESSU	RE- 0.570	HEAT	TOTAL P	#255URE +1	ie. Hea	TER TOTAL FI	EMPERATURE -	188, ALP	44- 4.00
	TUNNEL ST	ATIC PRESSU	RE- 0.576	неат	TOTAL M	###### +1	O. HEA	TER TOTAL FI	EMPERATURE -	es, al-	
	TUNNEL ST	ATIC PRESSU	RE- 0.570	HEAT	TOTAL M	#255UR\$ +1	io. Hea	TER TOTAL FI			
	TUNNEL ST	ATIC PRESSU	RE- 0.576	HEAT	TOTAL M	*###### +1	O. HEA	YER TOTAL FI			
	TUNNEL ST	ATIC PRESSU	RE- 0.570	HEAT	TOTAL M	#251URE • •1	io. Hea	TER TOTAL FI			
	TUNNEL ST	ATIC PRESSU	RE- 6.576	HEAT	TOTAL M	********* ***	O. HEA	YER YOYAL F			
	TUMEL ST	ATIC PRESSU	6.576	HEAT	TOTAL M	*********	O. HEA	TER TOTAL F			

ANNEAN DESIGNATION OF THE CONTROL OF

	03 AUGUST 1	973		MSFC PLUME	TRISONIC TECHNOLOG	MIND TUNNEL Y TEST NO	HUNTSVILL ZZLE CALIBRA	E. ALABAHA TION PHASE		TEST 575	RUN 119/6
	and the second s	· · · · · · · · · · · · · · · · · · ·	****			TEMPERA	TURE DATA	DEGREES FAR	HRENHEIT	renco-pips	TCH
	FRAME	PSA	PTC	SKIN[1]	SKIN[2]	SKIN[3]	SKIN(4)	SKINISI			
	1	0.46	638.17	228.8	263.1	272.8	269.7	258.2	540.3	484.0	462.4
	2	0.43	653.43	228.3	262.2	272.3	269.7	296.5	534.1		465.9
-		0.46	670.28	229.2	264.4	272.8	271.0	306.2		476.0	469.9
	4	0.48	667.12	229.2	264.4	272.3	271.9	315.4	523.1		473.8
	5	0.50	672.38	228.5	264.0	271.9	273.2	324.7	518.7	482.6	476,5
	FRAME	PTC	PSC	1	TC PSN(4	41/PTC PSNI	451/PTC PSN	(461/PTC PS		NI481/PTC PSN	
	1	636.59	629,75	40	62.0	.01820	8.01428	0.61001	8.91869	8.81240	9.92276
<u> </u>	2	652.38	645.01	40	65.0 0	.01802	0.01028	0/01049	8.01878	8.01249	9.8222C
	3	469.75	661.33	4(	69.9	101779	0.01887	0.01637	0.01964	8.01212	0.02163
	4	666.06	659.22	4:	72.5	.41846	4.01023	0.81053	0.01988	0.01232	6.62172
	5	678.60	464,49	4	75.2	.01665	9.91834	0.01053	6.95682	0-01234	0.02158
		<del></del> ·		· · · · · · · · · · · · · · · · · · ·							
	TUNNEL STA	TIC PRESSUR	E= 8.454	HEAT	ER TOTAL P	MESSURE:	ise. Hea	TER TOTAL T	EMPERATURE-	688. ALPH	(A= 0.00
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	1973		MSFC PLUME	TRISONIC W TECHNOLOGY	THD TUNNEL TEST NOZ	HUNTSVILL ZLE CALIBRA	E. ALABAMA LTION PHASE		TEST 575	RUN 112/
					#FW05014		nenness FAH	RENHETT		
FRAME	PSA	PTC	SKIN(1)	SKIN151	SKIN[3]	SKIN[4]	SKIN(5)	HODEL-STING	FEEDER-PIPE	TCH
<u> </u>	0.48	936.06	222.6	263.5	277.6	289.0	327,8	544.2	500.2	495.0
<u>-</u> -	0.51	946,59	223.0	243.5	277.2	289.9	337.9	538.5	506.4	500.2
3	0.53	956,17	223.9	266.2	278.8	290.8	349.8	535.4	515.6	585.5
<u>.</u>	0.55	961.85	224.4	265.3	277,2	293.0	359.0	531.9	525.3	510.4
5	0.58	967.12	224.4	267.5	278.0	295.2	369.6	530.2	532.8	515.2
FRANE	PTC	PSC		TC PSN(44	1/PTC PSNI4	5)/PTC PSN	(461/PTC PSI	1(47)/PTC P8H	(48)/PTC PSN	(49)/PTC
	933.96	923.96				.01013	0.81454	0.01963	0.01228	0.01551
1		938.17				.81815	0.51854	0.01343	0.81228	0.01531
2	945,54	952,91				.01986	0.01047	0.01074	0,61218	8.01507
3	960,60	952,38				.01013	\$.81052	9.01000	8.\$1225	0.41588
4	968,28 967,64					.01010	8.91051	0.01878	0.9127?	0.01497
	•			ER TOTAL PE	(E35URE= 14)	IG. HEA	TER TOTAL T	ENPERATURE:	615, ALP	1A= 0.80
TUNNEL ST	ATIC PRESSU	#E= 0,531		-		_				
TUNNEL ST	ATIC PRESSU	WF8 (1-20)								
TUNNEL ST	ATIC PRESSU	MES (1,531								
TUNNEL ST	ATIC PRESSU	MF2 0.531								
TUNNEL ST	ATIC PRESSU	ME2 0,531								
TUNNEL ST	ATIC PRESSU	ME2 0.531								
TUNNEL ST	ATIC PRESSU	ME2 U.>31								
TUNNEL ST	ATIC PRESSU	ME2 0,531								
TUNNEL ST	ATIC PRESSU	ME2 U, >31								

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TERT 575	RUN 113/8

_03_AUGUST	1973		MSFC PLUME	TRISONIC WI TECHNOLOGY		HUNTSVILLE LE CALIBRAT	ION PHASE			
					TEMPERATU	RE DATAD	EGREES FA	HRENHEIT	renco-bips	TCH
FRAME	PSA	PTC	SKIM(1)	SKIN(2)	SKIN[3]	SKINI41	2KIM(2)	HODEL-STING	ACENEWALT.	. •
FHARE	FSA					280.7	370.9	515.2	557.9	532.6
1	1.18	1379.22	189.2	233.2	242.4	200.,	4.41.			
•					243.3	262.9	383.6	517.4	562.3	533.
5	1.13	1323,43	190.0	237.1	2-010	£027°				533.
			191.4	240.2	244.6	286.4	395.1	519.6	561.8	2001
3	1.15	1271,65	147.4	E1412				520.9	561.6	532.
	1.22	1230.28	193.4	244.2	245.9	289.9	404.8	220.7	302.0	
•	1164	150015				292.6	413.1	521.8	361.4	532.
5	1.25	1197.12	194.4	246.8	246,4	245.0	41011	756		

 FRANE	PTC	PSC	TC P	SHE441/PIC PI		SN(46)/PTC P		0,01207	0.01051
 	1479,22	1367.64	538.7	0.61882	0.00994	8.01042	1.41468	Afares.	41424-
ı	£414+				0.61893	0.01070	4.01677	1.01216	0.01395
 2	\$120.91	1312.91	584.1	0.01015	2107440				8,01139
 	4000	1269,54	583.7	4.81430	0,01012	6.81658	9,91086	0.61226	4,42104
2	5278.A0	1803124	2020.			- 44-54	8.91089	0.51250	8,41179
 	1228.17	1217,44	533.7	0.01832	0.41414	9.01864	******	· · · · · · · · · · · · · · · · · · ·	
•				0.01621	\$48484	8.01059	8.91984	8.01225	6.01211
 5 ~	21194.47	1587.64	322.2	Athlast	A charact				

· <u>*                                     </u>	TUNNEL STATIC PRESSURE: 1:175	HEATER TOTAL PRESSURE 1894.	HELTER TOTAL TERRENATURES 625.	-454W- 0'40
	INMER PINTED AND PROPERTY.			
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	03 AUBUST 1	.973		MSFC PLUNE	TRISONI TECHNOL	C WIND TO	NOZZ NOZZ	HUNTSVILLE LE CALIBRAT	ALABAMA TON PHASE		TEST 575	RUM 114/6
-	FRAHE	PSA	PTC	SKIN(1)	SKIMI	TEI	MPERATU [N(3)	RE DATADI SKIN(4)	EGREES FAN	RENHEIT HODEL-SY[NO	FEMDER-PIPE	
	1	0.32	1778.70	248.1	268	.8	278.9	284,2	321.6	504.0	596.2	548.2
	2	0.33	1030.00	249.8	270	.1	279.4	286,0	340.5	512.6	568.8	550.4
	3	0.34	1808.70	249,4	272	.3	284.2	288,6	359.9	518.3	574.4	550.0
		0.37	1717.64	249.4	274	.5	288.2	291.7	374.8	923.6	576.8	549.1
	5	0.42	1662,38	249.9	275	.0	288.7	295.6	392.9	526.6	973.7	546.0
	FRANS	PTC	PSC		TC PSA	({44]/PTC	P8H[4]	I)/PTC PENI	61/PTC PE	11471/PTC PSN	1483/PTC P\$1	i(49)/PTC
	0	-2.85	14.46	, ,	145.6	-4.27918	-4.	73267 -5	.02491	-4.99022	9,54257	-5.02144
<u></u>	2	1630.20			554+8	0.01761	4,	64943	.01420	8-41056	0.01191	8.88791
		1814.70		)	590.6	8.41774	0	84977 (	1.01924	8.81549	8.01103	0.88797
	4	1716.59	1709.2	}	548.2	8.9156			1,01,845	9.01071	8.61288	8.80643
	5	1484.47	1646.8	7	546.8	1.0180	5 6:	14997 1	9,47849	0.01972	8.41296	E.94673
	TUNNEL STA	TIC PAGSEL	<b>ДЕ</b> = 0.356	HEA	TER TOTAL	L PRESSUI	₹ <b>2</b> 296	. HEATI	ER TOTAL T	ENPERATURES	825. N.F	NA
		<u> </u>			<del></del> -							
							<u>-</u>					<u></u>
	· <u>—</u> — · · · <u>—</u>											
												-

			SK[N[1]	SKIN(2)	TEMPERATUR	E DATADE	GREES FAHREN SKIN(5) NCD	HEIT	DER-PIPE	TCH
FRAME	PSA 10.63	PTC 409.73	84.5	96.2	90.6	91.0	0.0	199.4	284-0	196.E
. 2		414.46	85.8	91 .5	91.5	92.3	0.0	189.9	265.7	200.7
							- <del></del>			,, <del> </del>
R PTC	TC P47/PT	c PORT-22	NO PSM/PSA	NO PSM/PSA	NO PSM/PS/	NO PSM/PSA	NO PSM/PSA	NO PSM/PSA	NO PS#/PSA	NO PSH/P
	97.7 0.010		5 0.09684				23 0,96373			
2 413.4 1	•		4 0.95245	7 n.975 <b>37</b>	12 0.9684	5 17 1.01102	24 0.96628	30 0.98810	41 0.78001	36 1.016
3 407.6 1			3 p.88478				25 0.96082			
4 410-8 1	99.9 0-010	9 9.06					26 0.97719			
5 414.5 2	0 <b>0.3 0.0</b> 10	9 9.06	1 1.14964	10 0.96846	15 n.9819	2 20 0.96625	27 p.98483	33 0.94190	40 8.77419	43 0.780
6 412.4 2	01.2 0.010	9 9.06		45		21 0.93935	28 0.98447			

	OA_AUGUST	1973.	and a state of	NSFC 1	FRISONIC 41	ND TUNNEL GY TESTN	HUNTSVILLE	ALABAMA T PHASE		TES <u>T_575</u>	RUN 115/1
		PSA	PTC	SKINII	SKIM(2)	SKIV(3)	PE DATADI SKINI41	EGREES FAHRE	HEIT	=DE9-PIPE	TCH
	FRAME	10.74	369.20	106.7	103.2	104.9	104.9	0.0	234.1	444.3	272.2
	2	10.72	371.30	105.3	101.4	163.6	104.0	0.0	229.8	426.1	273.1
		10,72									
	ب د د میشد.						- Davis	A ID BOW PEA	NO PEM/PSA	NO PSM/PS#	HO PSH/PSA
	FR PTC	TC P47/	TC PORT-2	NO PSM/PS	A NO PSM/PS	A NO PSY/PS	A NO PSM/PS	A NO PSM/PSA	50004	74 0 94.00	75 1 n3932
	1 367.6	272.2 0.0	107 9.14	5 0.9953	7 6 0.9842	0 11 0.9633	1 16 0.9723	1 23 0.96547	39 0.99801	34 (1.0010)	35 1.00002
	2 367.6	271.8 0.0	9.14	4 n.9503	4 7 p.9752	0 12 г.9683	5 17 1.0065	4 24 5.96619	30 0.98420	41 6.78859	36 1.01266
	3 367.1	272.7 0.0	107 9.14	3 0.8894	6 8 0.9867	2 139715	9 18 0.9RO6	0 25 n.96043	31 0.97484	42 n.79639	37 1.01158
		272.7 0.0		2 1.0746	2 9 0.9759	2 14 0.9755	6 19 0.9759	2 26 9.97484	32 0.95970	39 n.78354	38 0.85667
- A4 .				1 1.1466	7 10 0.9669	1 15 0.9788	0 20 0.9633	1 27 0.98169	33 3.93701	40 0.78426	43 0.78678
		272.2 0.0						1 28 0.98168			
	۸ 369.2	272.2 0.0	9u7 9.13	. •	,						- •
	MODEL ATT	TUDE	NDITIONS	ALPHA		TA 0.00 = 272.3	PTC/PSA=	0.0	PSM[22]/PSA	.892 TEHP	194.6
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7. 1.1			-	-	<u>.</u>	عديد ۽					÷ = •
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PLUME TECHNOLOGY TESTNON-QUIESCENT PHASE			uasa	TOTODLE UT	NIT THANGE	HINTSVILLE	. AL ARAM	<b>A</b>		TEST	575	ลุบห
FRAME PCA PTC SKIMI] SKINIZI S	OH MÜGUSI 13/3		PLU	HE TECHNOLO	GY TEST NO	v-DUTESCEN	T PHASE					
1 16.55 740.78 96.2 94.9 97.1 98.0 0.0 212.4 341.6 2 16.48 764.99 97.1 95.8 97.1 98.4 0.0 205.9 300.9  FR PTC TC P47/PTC PORT-72 NO PSM/PSA NO				*	<u>TEMP</u> ERATUR	E DATAD	EGREES F	AHREM	HEIT	CECNER-	 0186	
1 10.55 741.78 96.2 94.3 97.1 95.8 97.1 98.4 0.0 205.9 300.9  2 10.45 764.99 97.1 95.5 97.1 98.4 0.0 205.9 300.9  FR PTC TC P47/PTC PORT-72 NO PSM/PSA NO	FRAME PCA	erc	2K["[1]			Mark Day	<u> </u>			·		
FR PTC TC P47/PTC PORT-22 NO PSM/PSA NO PSM/	1 10.55	740.78	96.2	94,9								
1 740.3 244.5 0.0109 9.17 5 1.00199 6 0.98838 11 0.96448 16 0.97882 23 0.96779 29 1.00860 34 0.88175 35 2 742.9 243.6 0.0109 9.17 4 0.95566 7 0.97698 12 0.96963 17 1.01486 24 0.96595 30 0.99316 41 0.82586 36 3 752.9 242.8 0.0108 9.16 3 0.87917 8 0.98985 13 0.97404 18 0.99059 25 0.95896 31 0.98323 42 0.82917 37 4 752.9 241.0 0.0109 9.18 2 1.08509 9 0.97919 14 0.97735 19 0.98397 26 0.97956 32 0.97036 39 0.82071 38 5 761.3 241.0 0.0109 9.20 1 1.15826 10 0.96963 15 0.98581 20 0.97294 27 0.98838 33 0.95124 40 0.82365 43 6 768.1 238.9 0.0108 9.19 21 0.94793 28 0.98838 WIND TUNNEL TEST CONDITIONS Q 6.112 PT 18.011 PS 10.519 R/L 5.1 NACH 0.911 TEMP 10 MODEL ATTITUDE ALPHA 0.00 BFTA 0.00 ROLL 0.0 PTC/PSA= 71.59 PSMI221/PSA= 0.8727	2 11.49	764,99	97.1	95.5	97.1	98.4	D.	0	295-9			
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	5 761.3 241.0 0.0 6 768.1 238.9 0.0	1109 9.18 1109 9.20 1108 9.19	1 1.1582	26 10 0-9696	3 15 g.98581	20 0.9729 21 0.9479	94 27 0.9 93 28 0.9	9838 98838	33 0.95	124 40 0	.82365	43 (
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<u>- 보고 보고 보고</u> 그는 1일 - 경기로 기본 - 경기로 기본 기본 기본 기본 - 경기로 - 용기로 - 왕(- 경기로 기본 - 경	5 761.3 241.0 0.0 6 768.1 238.9 0.0  WIND TUNNEL TEST CO HODEL ATTITUDE	1109 9.18 1109 9.20 1108 9.19 INDITIONS	1 1.1582	.112 PT 0.00 BF	3 15 0.98581 18.011 PS TA 0.00 = 242.0	20 0.9729 21 0.9479 10.519 ROLL PTC/PSA=	R/L 0.0 71.59	98838	33 0.95 MACH PSH(22)/	0.911 PSA= 0.8	.82365 TEMP	43 (
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				4,													
	OB AUGUST 1	973				HSFC T	RISON	IC AI	ND TU	NNFL ST. NO	KUNTSV <u>ILL</u> N-OUTESCE	, ALAE	IAMA		TES	5 <u>75</u>	RUN 117/0
		is Ekst lik				PLU	4E IFC	.HWULU	-	• • <del>•</del>							
	FRAME	PSA	30 - 31 - 31 - 31 - 31 - 31 - 31 - 31 -	 -TC	SKIN	<u></u>	SKIN	121	TEM	PERATUR 131	SKINI4)	SKI	(5) HO	DEL-STIN	G FEEDER	PIPE	TCH .
	1	16.65		21.83	1.	10.6		7A . n		99.7	99.0		0.0	230.	2	290.9	230.2
	2	10.64	100	17.62	11	11.4		8.4		9.3	99.7		0 - 0	215.	O .	254.5	555.0
				المناسب							e e el en el en el en el en el en el en el en el en el en el en el en el en el en el en el en el en el en el e El en el en el en el en el en el en el en el en el en el en el en el en el en el en el en el en el en el en el						
									. :	74				<u></u>	ne. No D	CU/PSA	NO PSH/PS
	FR PTC	TC P4	77PTC	PORT-2	2 NO	PSM/PS	A NO F	PSM/PS	SA NO	PSH/PSA	NO PSM/P	SA NO	PSM/PSA	20 4 0	779 34 N	92099	NO PSM/PS
-	1 1120.3	230.6 0	0107	9.70	5	0.9972	6 6	0.9849	91 11	0.96421	16 0.9/8	00 24	0.96421	30.0.99	363 41 0	.89267	35 1.03975 36 1.0183
	2 1117.6			9.69	4	0.9500	5 7 (	0.972	93 12	0.0719	18 0.000	nn 25	0.95876	31 0.9	491 42 0	89630	37 1.0186
	3 1117.6	- P.			3	0.8825	0 8	0.985	27 13	n.97729	19 8.986	36 26	5,97874	32 0.9	7583 39 0	.88540	38 0.9166
	4 1123.4	- 1 - E		9.69	2	1.8/89	1/ 9	n.967	84 15	n.9841	20 0.976	92 27	0.98709	33 0.9	6240 340 (	.88795	43 0.8933
	5 1122.9 6 1124.5	1.57	4 <u></u>	9.70							21 0.95						
	6 1124.5	229.3	0.0107									:					
	HIND TUNNE	L TEST	CONDIT	IONS.	0		026	PT	17.9	98 PS 0.00	10.651 ROLL	R/L	5.1	HACH	0.899		101.0
	HODEL ATTI	TUDE.	• • • • • • •		<del></del>	LPMA	0.0 121.0	7	Ca 2	26.5	200 /DCA	105	26 TEMPE	PSM1221 RATURE#	/PSA= 0. 220.	9898	
	AVERAGE MO HEATER PAR	AMETER	<u>s</u>	· · · · · · · ·	::::: !	EATER.	10146	PRES	JOKE						aliante <del>La como de</del> es		
		د مید. در میداند				بشعف بساء											- 12-
				Las.		-+ -		A# 0 ****			د د خوست				<del></del>		
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			·	1.0	200												
	<u> </u>					y P								<u> </u>			

J9 AUGU	ST 1-73			MSEC T	RISONIC WI	ND TUNNEL GY TESTNO	HUNISVILLE. N-DUIESCENT	ALABAMA PHASE		TEST_575	2UN 118
					4			opreo Eluci			
FRAME	:" `:` ₽5A		PTC	SK1/[1]	SKIN[2]	TEHPERATUR	E DATADÉ SKINI4)	SKIN[5] M	DEL-STING	LEEDEs-bisE	TCH
1	10.	72	1480.78	109.7	102.7	114.9	103.2	0.0	198.6	291.4	229.
2	i.	T 7- 1	1486.57	118.1	102.7	104.0	103.6	0.0	191.2	244.1	220.
						. ••! 					
·					and the second			<del></del>			
FR P	c rc	P47/PT	C PORT-22	NO PSY/PS	NO PSM/PS	A NO PSM/PSA	NO PSMIPSA	NO PSM/PS	NO PSH/PS	A NO PSY/PSA	NO PSHIP
	.3 229.8	i i i	_	5 0.9971	2 6 0.9852	2 11 0.96646	16 0.98161	23 0.9639	3 29 1.0097	5 34 0.95672	35 1.656
	5.5 227.6	- Page 1		4 0.9495	g 7 g.973	1 12 0.9700	17 1.01588	24 0.9661	0 30 0.9974	8 41 0.94121	36 1.020
				3 0-8892	6 8 0.9871	2 13 P.9754	18 0.99604	25 0.9635	7 31 0.9924	3 42 0.94842	37 1.024
	5.0 225.4			2 1 0768	5 9 n. 976	2 14 n.9783	19 0.99352	26 0.9801	7 32 0.9855	8 39 0.93399	38 0.954
	3.9 223.3	- 14		2 1.0700	10000	71 15 D. 9866	20 0.98847	27 0.9895	5 33 0.9790	9 40 0.93796	43 0.943
	5.6 221.5	100		1 1.1401	T 10 0.303	1 15 03.555		25 0.9909			
6 149	2.2 220.2	2 0.010	5 10.17								
			· · · · · · · · · · · · · · · · · · ·				10.722	P/L 5.1	MACH	0.893 TEMP	100.8
MODEL	ITTITIDE.		ITIONS	ALPHA	0.00 B	18.004 PS FTA 0.00	ROLL	) <b>.</b> D	PSM(22)/PS		
ANCHAC	E MANEL /	いハブブレビ	DADAMETERS	PTC= 14		C= 224.6 SURE= 1645.	PTC/PSA= HEATER	TOTAL TEMPE	RATURE= 220	).	
HEATER	PARAMELI	<u>EKS</u>	, · · · · · · · · · · · · · · ·	<u>, , , , , , , , , , , , , , , , , , , </u>	<u> </u>				4. <u> </u>		
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	<u>جائنے انے</u>	يَـــ سَانِيْنِ									
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OR.	<del></del>				معاردات فالتسبيب						
<b>8</b>					موارد دخشت						
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OA AUGUST 1973

MSEC TRISONIC WIND TUNNEL MUNTSVILLE, ALARAMA PLUME TECHNOLOGY TEST...NON-DUIESCENT PHASE

TEST 575 RUN 119/0

	 FRAME	PSA	etc	SKINIII		-IEMPERATUS Skiri3]	SKIN(4)	EGREES FA	HODEL-STING	FEEDEP-PIPE	тсн
	 _ <del></del> 1	11.58	1825.52	111.9	108.0	110.1	108.8	0.0	181.6	233.2	212.5
#	 2	10.59	1845.52	111.4	107.1	108.4	109.4	0.0	176.9	217.2	206.8

FR PTC TC P47/PTG PORT-22 NO PSM/PSA NO PSM/

0.905 TEMP 107.0 10.591 5.1 MACH RIL WIND TUNNEL TEST CONDITIONS..... G 6.066 PT 18.004 PS MODEL ATTITUDE....... ALPHA 0.00 BETA 0.00 ROLL 0.0 PTC/PSA= 172.96 PSH[22]/PSA= 0.9836 TC= 207.3 AVERAGE MODEL/NOZZLE PARAMETERS.. PTC= 1831.7 HEATER TOTAL TEMPERATURE= 215. HEATER PARAMETERS ..... HEATER TOTAL PRESSURE 2075.

:.		1.	**					≃ دشو دلده چست ی					
	-	<u>-</u> , •, ,, -						TEMPERATU	PE DATADE	GREES FA	HRENHEIT	FEETE FIE	TCH
<u>.                                    </u>		 - ED		٠٠٠ ود ٠٠٠	ρτc	SKIN[1]	SKIN[2]	2K[1[3]	SKINI41	SKIN[5]	WDDEL-SITVE	7 EE	
	j.		Tales of the	-			186.2	197.5	106.7	0.0	179.9	233.2	204.2
<del></del>	-		1	10.58	1808.67	112.1					176.0	72.3.5	202.5
	<del></del>	 	2	18.60	1813.41	112.3	105.3	106.2	106.7	U • 0	1.0.0		
`	_ ~~~	 ر. د نشب			ب حب باشد با مسیدان								
			1.5						<u></u>				

FR PTC TC P47/PTC	P081-22	NO PSH/PSA N	IO PSM/PSA N	IN PSM/PSA	NO PSM/PSA	NO PSM/PS/	NO PSM/PSA NO	1 PSM/PSA NO PSM/P
	40.40	5 n ccc27	6 0.98613 1	11 F.96386	16 0.98686	23 0.96641	29 1.01643 3	1 1.44191 33 1:003
		4 6 95473	7 0.97773 1	12 0.97116	17 1.02300	24 0.966/	30 1.00/07	, 6.10000 50 2-00-
		7 0 99207	8 0.98905	3 C.97773	18 1-00511	25 0.9627	5 31 1.00438 4	5 is 44380 21 Tedas
3 1821.3 284.2 0.0163 4 1812.9 203.8 0.010	3 10.40	3 9 . 00 . 0 .	0 0 07910	4 0-98321	19 1.00475	26 0.9850	3 32 1.00146 3	0 0.97773 38 0.987
4 1812.9 203.8 0.010 5 1837.1 203.3 0.010	4 10.48	2 1.78265	9 U.97010	4E 0 00087	20 1 00219	27 0.9945	2 33 0.99927 4	0 0.98248 43 0.985
			10 0.A0000	15 0.44001	21 1.00219	28 0.9945	2	
6 1837.1 283.3 1.010	3 11.41				21 1.00211	, EG 0433		

WIND TUNNEL TEST CONDITIONS	ALPHA 0.00 BETA 0.00	ROLL U.U	PSN(221/PSA= 0	.9870	
AVERAGE MODEL/NOZZLE PARAMETERS			EMPERATURES 220.		<del></del>

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			<del></del> .		······································		<u> </u>		- <u> </u>				
	ON AUGUS	f 12.07 T			MSEC TE	RISCNIC .	IND TUNNEL OGY TEST	HUNTSVILL	E, ALABAMA	<u>.                                    </u>		TEST <u>5</u> 75	201 <u>120</u>
<u> </u>											·		
	FRAME	pc <u>A</u>	PIC	SK	ជំនួលរ	SK1V[2]	9×1×131	SKIN[4]			STING FEET	EP-PIPE	тсн
	i	7.45	1826.5	7	70.7	82.8	82.8	84.5	0 • 0		183.4	233 7	208.
	2	7.44	1853.9	4	72.0	84.1	84.1	88.0	0 + 0	<u> </u>	179.0	216.3	205.
					<del></del>			i e describe e maner					- · · · · · · · · ·
					<del></del>			- <del></del>			·····		
<del>-</del>	FR PTC	Tc P47/	PTC POR	T-22 NO	PSM/PSA	NO PSH/P	SA NO PSM/PS	A NO PSM/P	SA NO PSH/	PSA NO	PSM/PSA NO	PSM/PS4	NO PSM/P
	1 1832.9	208.5.0.0	103 7	.13 5	0.90326	6 1 0006	62 11 n.9837	7 16 1.010	26 23 0.92	455 29	1.03883 34	n.96715	35 1 - 141
	2 1836.0	206.B D.D	1103 . 7	.11 4	n.78587	7 p.996	23 12 0.9723	4 17 1.058	56 24 1.01	597 30	1.01285 41	0.95312	36 0.992
	3 1842.9	206.8 0.0	1103 7	12 3	0.96299	8 1.000	91 13 n.9515	6 18 1.020	55 25 0.94	221 31	0.96377 42	0.96299	37 1.035
	4 1813.9	206.8 0.0	105 7	13 2	1.29074	9 0 978	57 14 1.0222	0 19 1.016	49 26 1.02	220 32	0.99519 39	n.95208	38 0.940
	5.1856.0	205.5 0.0	102 7	.12 1	1.37177	10 0.979	61 15 1.0133	7 20 0.996	23 27 1.01	701 33	0.99880 48	n.96559	43 0-961
<u> </u>	6 1834.5	5 205.5 <b>0.</b> 0	104 7	.12	<del></del>		<del></del>	<u> </u>	65 28 1.02	<u> </u>			*
	<u></u>												• <del>!</del> -
	HIND TUNN	NEL TEST CO	NDITIONS		0 7.48	32 PT	18.017 PS	7.447	R/L 5	.4 //AI	CH 1.19	8 TEMP	107.6
	MODEL ATT	/I TURE	, M. C. (1986)		AL PHA	0.00 R	ETA 0.00	ROLL	0.0				
and the second of the second		10DEL/NOZZL	E PARAMET		PTC= 1836	5+0 T	C= 206.6	PTC/PSA=	246,55		221/PSA= 0 == 220.	.9566	
		10DEL/NOZZL	E PARAMET		PTC= 1836	5+0 T		PTC/PSA=				.9566	
		10DEL/NOZZL	E PARAMET		PTC= 1836	5+0 T	C= 206.6	PTC/PSA=	246,55			.9566	
		10DEL/NOZZL	E PARAMET		PTC= 1836	5+0 T	C= 206.6	PTC/PSA=	246,55			.9566	
		10DEL/NOZZL	E PARAMET		PTC= 1836	5+0 T	C= 206.6	PTC/PSA=	246,55			.9566	
		10DEL/NOZZL	E PARAMET		PTC= 1836	5+0 T	C= 206.6	PTC/PSA=	246,55			.9566	
		10DEL/NOZZL	E PARAMET		PTC= 1836	5+0 T	C= 206.6	PTC/PSA=	246,55			. 9566	
		10DEL/NOZZL	E PARAMET		PTC= 1836	5+0 T	C= 206.6	PTC/PSA=	246,55			.9566	
		10DEL/NOZZL	E PARAMET		PTC= 1836	5+0 T	C= 206.6	PTC/PSA=	246,55			. 9566	
		10DEL/NOZZL	E PARAMET		PTC= 1836	5+0 T	C= 206.6	PTC/PSA=	246,55			.9566	
		10DEL/NOZZL	E PARAMET		PTC= 1836	5+0 T	C= 206.6	PTC/PSA=	246,55			22	

MSFC TRISONIC WIND TUNNEL HUNTSVILLE, ALABAMA PLUME TECHNOLOGY TEST...NON-QUIESCENT PHASE

TEST 575

RUN 120/1

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							RE DATAD SKIN[4]	EGREES FAHRI	ENPEIT	Enep-piz=	TCH
	ERAME	: be∀	PTC	SKT+[]]	SKIN[2]	2817[3]		- Land Land 1			
	1	7.41	1707.62	109.7	103.2	107.1	107.1	0 - 0	196.0	231.1	205.
		7,40	1731.31	119.7	102.3	104.9	105.8	0.0	188.6	215.7	<b>203</b> .
						و چگونگون اور اینداند اوران					
					<u> </u>				,		<del></del>
	FR PTC	TO DAT	/DTC - 0001-2	NO POW/PC	NO PSM/PS	A NO PSH/PS	A NO PSH/PS	A NO PSH/PS	A NO PSM/PSA	NO PSY/PSI	10 PSM/P
				1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		and the second s			0 29 1.09789		
	1 1699.7		7 "	* .							
	2 1701.3	205.5 0.	and the second of the second of the second	•			and the second of the second o		1 30 1.08901	and the second second	
	3 1701.3	204.2 0.	0104 7.83	3 n.95321	8 1 . 128	8 13 1.0242	4 18 1-1105	5 25 1.0054	4 31 1.09423	42 1.04931	37 1.125
	4 1709.2	205.1 0.	0104 7.83	2 1.3047	9 1.103	3 14 1.0158	9 19 1.1119	9 26 1-0770	0 32 1-09528	39 1.03312	38 1.042
	5 1723 4	204.2 0.	nin3 7.84	1 1.4097	10 1.064	6 15 1.0738	6 20 1.1046	8 27 1.0796	1 33 1.09267	40 1.94931	43 1.042
								8 28 1.0796			<del>-</del>
en en en en en en en en en en en en en e	6 1/23.4	204.2 0.	U1U3 7.04								·
											·
			ONDITIONS	0 7.4	183 PT 0.00 BI	17.998 PS	7.406 ROLL	R/L 5.4	MACH 1.	202 TEMP	105./
	AVERAGE M	DDFL /ND77	F PARAMETER	S. PTC= 17	9.7 T	= 204.9	PTC/PSA=	230.87	PSM(22)/PSA= RATURE= 220.	1.0571	
	HEATER PA	RAMETERS.	· · · · · · · · · · · · · · · · · · ·	HEATER	INIAL PRES	30KE= 2000.	NEATER	TOTAL TERM	HATOME CEST		
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05 AURUST 1-/3 MSEC TRISONIC WIND TUNNEL HUNTSVILLE, ALARAMA TEST 575 RUN 121/0 PLUME TECHNOLOGY TEST...NON-QUIESCENT PHASE

	 FRA	rĘ.		PTC	SKIN[1]	SKINI21	-TEMPERATUR	SKIN141	SKIN(5)	MODEL-STING	FEEDER-PIPE	TCH
<del>-</del> <u>A</u> i	 . 1		7.37	1460.75	104.9	101.4	104.9	105.8	0.0	1*5.5	245.8	712.0
	 2		7,39	1486.04	194.0	100+1	103.6	105.8	0.0	189.8	224.6	207.7

FR PIC TC P47/FIC PORT-22 NO PSM/PSA NO PSM/

HIND TUNNEL TEST CONDITIONS.... Q 7.486 PT 17.992 PS 7.383 R/L 5.4 MACH 1.204 TEMP 107.0 MODEL ATTITUDE.....ALPHA 0.00 BETA 0.00 ROLL 0.0 AVERAGE MODEL/NOZZLE PARAMETERS.. PTC= 1469.8 TC= 210.3 PTC/PSA= 199.08 PSH(22)/PSA= 0.9302 HEATER PARAMETERS..., HEATER TOTAL PRESSURE= 1640. HEATER TOTAL TEMPERATURE= 215.

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		424	PTC	SKIP(1)		K]V[3]	SKIN[4]	SKIN[5] 40	FL-STING FE	EDER-PIPE	TCH
	FRAME			84.1	89.7	94.1	100.1	0.0	213.7	261.0	217.2
	<b>.</b>	7.18	1121.25	84.1	07.7			0.0	202.0	236.3	212.9
	2	7.38	1141.83	84.1	91.0	94.5	101.0	U = U	505.0	<del></del>	
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	: 	ing the state of t					. 4. <del> </del>			• • •	
	•				A NO PSH/PSA N	- 6-0 (BEA	NO DENTE	NO PEM/PEA	NO PSH/PSA	NO PSP/FSA	vo PsM/P
<u></u>	FR PTC	TC P47/	PTC PORT-	22 NO PSH/PS	A NG PSH/PSA N	D PSM/PSA	NU PSEZESA		00 4 044E4	74 0 03516	35 1.131
	1 1129.7	217.6 0.0	1107 6.7	7 5 0.9011	1 6 1.01217 1	1 0.98598	16 1.01951	23 0.94459	54 1.04121	34 (11,0210	
	· · · · · · · · · · · · · · · · · · ·	217.2 0.0	4.07 6.7	a 4 n.7753	7 1.00903 1	2 0.98598	17 1.06299	24 1.01898	30 1.02527	41 0.80942	36 0.999
e de la companya de la companya de la companya de la companya de la companya de la companya de la companya de La companya de la companya de la companya de la companya de la companya de la companya de la companya de la co		200			9 8 <b>0.99436</b> 1	3 n.95874	18 1.0331	3 25 0.94773	31 0.99017	42 0.81624	37 1.035
	3 1115.5	215.0 0.0	0108 6.7	7 3 0.95/6	1 0 0 0 0 0 0 0 0	3 ()		200 4 00044	39 n 00n17	39 0.80576	38 0.920
	4 1125.5	214.6 8.1	0108 6.7	8 2 1.2966	55 9 0.99489 1	4 1.01322	19 1.0200	3 26 1.02041	31 0 0 0 0 0 1		47 2 014
	E 4454 3	213.3 0.		8 1 1.3684	13 10 0.98545 1	5 1.00955	20 1.0132	2 27 1.02318	35 0.99646	40 0.82252	42 0.010
								3 28 1.01951			
	6 1139.7	212.4 0.	0107 6.7	, <u>.</u>							
					•					.205 TEMP	107.2
<u> </u>	WIND THN	FI TEST C	ONDITIONS		.506 PT 18		7.383 ROLL	R/L 5.4	•		
	HODEL AT	TTUDE		OC DICT 1	0.00 BETA 126.8 TC=	215.0	DTC/DSA=	152.62	PSM(22)/PSA	= 0.9177	
	AVERAGE !	40DFL/NOZZ ARAMETERS.	TE PARAPETE	RS. PTC= 1: HEATER	TOTAL PRESSUR	E= 1260.	HEATER	TOTAL TEMPE	ATURE 210.		
	1,2,1,1,2,1										
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PLUME TECHNOLOGY TEST ... VON-QUIESCENT PHASE

- T			= +-			-TEMPERATURE DATA	FERFES FARRENT	L-STING FEEDED-DIPE	TCH
	FRAME	4SA	PTC	SKINULL	SKIN[2]	SKIN[3] SKIN[4]	SKIN(5) HODE	F-Stire teeden-pine	104
	1	7.38	751.3n	104.0	101.9	105.8 107.5	0.0	202.9 270.1	21F+1
	2	7.33	764.99	114.0	99.3	103.6 106.7	0.0	194.7 247.1	214.6
						and the second second		** * * * * * * * * * * * * * * * * * *	

TO P47/PTC PORT-22 NO PSM/PSA NO PSM/PSA NO PSM/PSA NO PSM/PSA NO PSM/PSA NO PSM/PSA NO PSM/PSA NO PSM/PSA NO 6.71 5 0.90373 6 1.01060 11 0.98598 16 1.01898 23 0.94092 29 1.04308 34 0.92573 35 1.13529 756.0 218.5 0.0109 6.71 4 0.77275 7 1.00379 12 p.98441 17 1.06142 24 1.01479 30 1.02422 41 0.71198 36 0.99803 2 756.0 217.6 0.0110 6.72 3 0.95926 8 1.00222 13 0.95978 18 1.03288 25 0.94773 31 0.99122 42 0.72193 37 1.03942 3 757.6 212.9 9.0119 2 1.29822 9 0.99646 14 1.01898 19 1.02265 26 1.03051 32 0.99646 39 n.71198 38 0.92154 4 762.4 215.9 0.0110 1 1.36895 10 0.98860 15 1.01375 20 1.01322 27 1.02318 33 0.99595 40 0.72927 43 0.72193 5 758.7 215.0 0.0110 21 0.98545 28 1.01951 6 762.9 215.5 0.0110

HACH 1.203 TEMP 107.1 WIND TUNNEL TEST CONDITIONS..... Q 7.483 PT 17.986 PS 7.383 R/L MIND TUNNEL TEST CONDITIONS.... ALPHA 0.08 BETA 0.08

MODEL ATTITUDE..... ALPHA 0.08 BETA 0.08

TC= 216.4 PTC/PSA= 102.79 PSM(22)/PSA= 0.9098 AVERAGE MODEL/NOZZLE PARAMETERS. PTC= 758.9 HEATER PARAMETERS ..... HEATER TOTAL PRESSURE: 840. HEATER TOTAL TEMPERATURE 210.

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Ų.			ing.	**	PLUME TECHNOLOGY	TESTNON-OUIESCENT	PHASE	٠.		

	- 4	- 1 - 1,7									DATAD		FAURE	14FTT			
	FR	×F	PCA	• :	PTC	SKINIII	ŠK	IN151	SKI		SKIN(4)	ŠK I	ง์(5) หกัเ	PESTING	FEEDE	p-PIEE	TCH
<del></del>		1	7.40	5 .	362.8R	111.9	No	107.5	11	3.1	111.4		0.0	173.0	j	274.3	210.
		2	7.4	2 4	4n1.83	111.0		103.5	15	7.1	109.3		0.0	170.4	,	259.7	711.
			ingst Magnetic of the Theory	***		~ ~~			<del>ma</del> sec								
			<del>-</del> :		<u></u>	<del> </del>			<del></del>			<del></del>					
	FR	PTC	TC P	47/PTC	PORT-2	2 NO PSH/	PSA NO	PSM/PS	A NO F	SM/PSA	NO PSM/PS	A NO	PSM/PSA	VO PSH/	SA NO	PS=/PSA	NO PSH/P
	1	360.8	210.7	0.0119	6.74	5 0.90	313 6	1.0081	6 11	99672	16 1-0138	8 23	0.93121	29 1.04	299 34	0.91873	35 1.144
<u> </u>	2	370.8	212.4	0.0110	6.71	4 0.79	394 7	0.9931	8 12	n.97332	17 1.0570	3 24	1.81804	30 1.01	440 41	n.56725	36 0.993
	3	379.7	212.0	0.0109	6.71	3 0.96	240 8	1.0092	8 13	n.96292	18 1.0222	0 25	0.94732	31 0.98	580 <b>42</b>	n.57973	37 1.837
	4	386.6	212.4	0.0110	6.72	2 1.29	360 9	0.9878	8 14	1.01960	19 1.0216	8 26	1.02479	32 0.99	724 39	n.57141	38 0.919
	5	396.0	212.0	0.0109	6.72	1 1.36	327 10	0.9821	6 15	1.01284	20 1.0019				892 40	n.58753	43 0.582
	6	400.8	212.9	0.0109	6.71						21 0.9790	4 28	1.02531	:			
																·	<del> </del>
	WIN	D TUNN	EL TEST	CONDI	TIONS		7,471			2 PS	7,439	R/L	5.4	MACH	1,19	8 TEMP	106.9
	<u> </u>					ALUMA		. 1111 156	-18		ROLL	0.0					
	AVE	DACE M	ITUDE.	771 C D	ADAMETER	15., PTC=	382.4	TO	TA 2 21 Sure=	2.1	DYC/PSAE	51.	41 TEMPER	PSH[22]/ ATURE= 2	PSA= 0	.9032	
	HEA	DACE M	ITUDE.	771 C D	ADAMETER	IS. PTC=	382.4	TO	<b>*</b> 21	2.1	DYC/PSAE	51.	41 TEMPER	PSH[22]/ ATURE= 2	PSA= 0 10.	.9832	
	HEA	DACE M	ITUDE.	771 C D	ADAMETER	15., PTC=	382.4	TO	<b>*</b> 21	2.1	DYC/PSAE	51.	41 TEMPER	PSH(22)/ ATURE= 2	PSA= 0 10.	.9032	
9	HEA	DACE M	ITUDE.	771 C D	ADAMETER	15., PTC=	382.4	TO	<b>*</b> 21	2.1	DYC/PSAE	51.	41 TEMPER	PSM(22)/	PSA= 0	.9832	
OF PO	HEA	DACE M	ITUDE.	771 C D	ADAMETER	15., PTC=	382.4	TO	<b>*</b> 21	2.1	DYC/PSAE	51.	41 TEHPER	PSM(22)/ ATURE= 2	PSA= 0	.9832	
OF POOR	HEA	DACE M	ITUDE.	771 C D	ADAMETER	15., PTC=	382.4	TO	<b>*</b> 21	2.1	DYC/PSAE	51.	41 TEMPER	PSH(22)/ ATURE= 2	PSA= 0	.9832	
HOOR I	HEA	DACE M	ITUDE.	771 C D	ADAMETER	15., PTC=	382.4	TO	<b>*</b> 21	2.1	DYC/PSAE	51.	41 TEMPER	PSH(22)/ ATURE= 2	PSA= 0	.9032	
POOR QU	HEA	DACE M	ITUDE.	771 C D	ADAMETER	15., PTC=	382.4	TO	<b>*</b> 21	2.1	DYC/PSAE	51.	41 TEMPER	PSH(22)/ ATURE= 2	PSA= 0	.9932	
POOR I	HEA	DACE M	ITUDE.	771 C D	ADAMETER	15., PTC=	382.4	TO	<b>*</b> 21	2.1	DYC/PSAE	51.	41 TEMPER	PSH(22)/ ATURE= 2	PSA= 0	.9932	

	OR AUGUS	1 1-73				<b>4</b>	SFC TE	TECH	ATND VOLCGY	TIP NEL	HIIN' NON-QI	TSVILLI UIFSCE	F <u>ala</u> NT Pha	SE			EST 575	₽ <b>Ų</b> Ŋ <u>1</u>
	FOAME			ĎΤ		5414(	4.1	SKINI		EMPERAL		AIA In[4]	DEGREE	S FAHRE	MHELI- DEL-ST	ING FEET	)-p-5155	†c
	1	1: 1:	.35	444		110		102		104.9	14	105.3	. 1	0.0		9.8	341.2	23
					<u>.</u>													
	FA PTC	ıc	P47/P1	rc P	081-22	NO PS	H/PSA	NO PS	1/PSA N	n PSM/P	SA NO	PSM/P	SA NO	PSM/PSA	NO PS	H/PSA NO	PSP/PSI	NO PSH
: ما معانون سود براد د دود د	1 439.				21.74			**	1.0								1 1,99621	
	2 443.	4 234.	1 0-010	<b>10</b>	7.21	4 0	81259	7 1-	36850 <u>1</u>	2 1.018	90 17	1.136	56 24	1.08327	30 1.	08908 <b>4</b> 1	0.68275	36 1.1
	3 443.	9 233.1	2 0.010	) <del>-</del>	7.21					4.4		* .		T			0.69175	
	4 443.	9 233.1	2 0.010	9	7.19	2 1.	30858	9 1.	L1704 1	4 1.008	87 19	1.110	18 26	1.06480	32 1.	08327 39	7 0.67276	38 1.0
	5 445.	0 231.	5 0.010	19	7.18	1 1.	41780	10 1.	7536 1	5 1 042	11 20	1.096	46 27	1.07852	33 1.	08011 40	0.68700	43 0.6
	6 445.	0 231.	5 0.010	9	7.18			:	· · · · · · · · ·		21	1.096	46 28	1.07852				
										• •• i	:							
	HIND TUN	NEL TES	ST COME	01710	NS	. 0	7.5	7 P1	T 18. BETA	004 P		7.331 LL	R/L 0.0	5.4	MACH	1.21	LO TEMP	104.1
	AVERAGE HEATER P	MODEL/N	NO771 F	PARA	METERS	. PTC	<b>≃ 44</b> 3	1.5	TC=	232.8 = 480.		C/PSA= Heater		50 TEMPER		]/PSA# 1 220.	L.3119	
	16435	Carrier Committee	<b>-</b>	5. <del>7. 1. 1.</del> 1.					4.									
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							e de la composición dela composición de la composición de la composición de la composición dela composición de la composición de la composición dela composición dela composición de la composición de la composición de la composición dela composición de la composición dela composición dela composición dela composición dela composición dela composición dela composición del			و الصد بيد ي دروندو								

								-TEMPERATU	RE DATAD	EGREES FAF	RENHEIT	FFEDER-PIPE	TCH
	jar.	FRAME	PSA		PTC	SKINIII	SKIN[2]	SKIN[3]	SKIN[4]	SKINISI	WOREF-2: ING		
		<u> </u>			570 s 5	101.9	98.8	100.6	99,7	0.0	284.4	331.2	250.6
<u> </u>	<del></del>	11	5,13	<del></del>	539,15		98.0	99.7	99.3	0.0	278.3	321.7	250.1
			5,12		509,67	161.4		99.3	98.8	0.0	272,7	312.6	245.0
	:	3	5,15		486.62	101,4	97.5		98.8	8.0	267.5	305.2	246.7
<u> </u>	<u> 41 - </u>	4	5,14	<u></u>	459,15	101.4	97.5	98.8		0,0	263,6	297,8	244.1
· <u>.                                    </u>		5	5,17	· · ·	445.99	101.9	97,5	98,8	99,7				241.5
4		6	5.15		435,46	101.4	95.4	98.4	99,3	0.0	20119		

TC P47/PTC PORT-22 NO PSM/PSA NO PSM/PSA NO PSM/PSA NO PSM/PSA NO PSM/PSA NO PSM/PSA NO PSM/PSA NO PSM/PSA PTC FR 5 0.87762 6 0.90469 11 0.98516 16 0.91071 23 0.96260 29 0.92274 34 0.97313 35 0.96486 1 539.1 251.0 0.0111 4 c.77983 7 0.95508 12 0.94756 17 0.91748 24 0.98817 30 0.97764 41 0.68660 35 1.14534 2 509.7 250.6 0.0111 3 1.81825 8 0.99268 13 0.95132 18 0.94530 25 0.93101 31 1.02502 42 0.68510 37 1.05886 3 488,1 248,4 0,0110 4.93 2 1.33034 9 0.98742 14 0.96486 19 0.98441 26 0.91372 32 1.01449 39 0.65276 38 1.04231 4 458.1 247.1 0.0112 4.93 1 1,43487 10 0.99193 15 0,95357 20 0.98290 27 0.94380 33 1.01374 40 0.66480 43 0.66104 5 446.0 244.5 0.0111 22:1:01299-28 0:93703

1,467 YEMP 181.4 5.3 MACH 5:148 R/L 18,699 PS 7,747 297 WIND TUNNEL TEST CONDITIONS..... Q 0.0 ROLL BETA MODEL ATTITUDE..... ALPHA PEN1221/RSA= 0.9576 P1C/PSA= 93.24 TC# 247.4 AVERAGE MODEL/NOZZLE PARAMETERS. . PTC= 479.6 HEATER TOTAL TEMPERATURE: 240. HEATER PARAMETERS..... HEATER TOTAL PRESSURBE 475.

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6 435.5 242.8 0.0111

	1917					<u> </u>						TEST 575	RUN 125/1
	**************************************	14 AUGUST	1973			MSFC PL	TRISONIC UME TECHNO	WIND TUNNEL LOGY TEST	MUNTSVILLE	T PHASE			
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-			· ·	<del></del>					TURE DATAD SKIN[4]	EGREES FAHR	ENHEIT ODEL-STING F	EEDER-PIPE	TCH
		FRAME	PSA		TC	ZK[N[]]	SKINT21			0.0	238.9	328.2	248.4
: : :-		1	5.1	48	7.64	102.3	98.4	entra de la companya de la companya de la companya de la companya de la companya de la companya de la companya		Ų.Ū	235.8	319.5	248.4
<u> </u>	- (1) - (1)	2	5.0	9 48	1.25	102,7	97.5		_		233.7	312.6	248.8
		3	5.0	9 48	5.46	102.3	98,4	101.9		<b>0.</b> □		304,8	247.5
1	4	4	5.0	9 48	5.99	102.7	99.3	101.6	101.0	0.0	231.1		246.2
	\$100 B	5	5.0	9 48	8.09	102.3	98,0	99,7	99,7	0.0	228,5	298,3	
		ó	5,1	2 49	70,72	101.9	96,2	99,7	99.7	0.0	225.0	290,5	243.6
			81.1									. · · · · · · · · · · · · · · · · · · ·	<u> </u>
1	11.	0-0		47/PTC	BODT-2	O NO PCH/F	SA NO PSM	PSA NO PSM/	PSA NO PSM/P	SA NO PSM/PS	A NO PSM/PS	A NO PSM/PSA	NO PSM/PSA
		FR PTC			5.31	5 n 047	80 6 0.99	2452 11 8.93	970 16 0.980	68 23 0.9510	8 29 1.0634	2 34 1.05431	35 0.92679
-			248.8			J 0 6 7 1 4		**** ** * * *	617 17 0.976	13 24 0.9791	7 30 1.0937	8 41 0.75221	36 1.19398
-		2 481.3	3. 249.7	0.0111	5.30	4 (),81(	100 / 11.7.	1452 15 012	7841 18 1.034	EA 25 n.9738	35 31 1.16B2	n 42 0.76056	37 1.15223
	1.55	3 484,4	1 249.7	0.0110	5,32	3 1.045	41 8 1.0.	3455 13 0.94	7841 18 1:454	50 E5 0 0486	20 4 4004	7 70 N 73551	38 1.18031
		4 485.	248-0	0.0111	5,31	2 1.389	05 9 1.0	0421 14 0.90	676 19 1.060	38 20 0,9400	20 25 T*TASY	5. 37. 01.032 <u>2</u>	AT 2 75145
·	1.0	5 488,	247,1	0.0111	5,32	1 1,449	01 10 0.9	8676 15 0,96	979 20 1,119			5 40 8,75575	43 0,72145
		6 491,	3 244,1	0.8110	5,30		<b>8</b> ,5		21 1,120	35 28 1,027	74	**	
14.													
. —		WIND TON	NEI TEST	CONDIT	TONS	0	7,746 PT	187815	PS 5.096	R/L 5.	3 MACH	1.471 TEMP	101.7
-		MARCH. AT	TITUDE			ALPHA	0.00	BETA 0.	OU RULL PTC/PSAM	0.0 95;35	P\$H1221/PS	A= 1.0423	
· <u>·</u>		HEATER P	MOUEL/NO ARAHETER	S	*****	S. PTC=	R TOTAL PR	ESSURE# 748	S. HEATER	TOTAL HERP	ERATURES 22		
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TEST 575 -4. 126/8

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	FR	AME	, P.	SA		PTC		(1)	-							263.		322.1	248.4
		1		5.11	8	21.78	1	03.2	9	9.7	1:1.	9	101.4		0 • ŭ			<u> </u>	
1. 14.		2		5.10	Ď	21.25	1	62.7	9	8.8	191.	4	101.0		6.0	257.	9	310.0	248.0
$\overline{}$		3		5.13	8	17,57	1	02,7	9	7.5	151.	<u>.</u>	101.0		0.0	252.	7	290.6	245.8
ORI	<del> </del>	10				19.67	1	02.7	9	8.0	193.	6	180.6		0.0	246.	0	269.2	244.5
9		4		<u>5.13</u>					- :	8 B	100.	1	101.4		0.0	244,	1	251.0	242.3
IGINAT	<del> </del>	5		5.13		25,99		03.2					100.1		u • 0	239.	7	274.5	241.0
<u> </u>		_6		5.13		26.51	1	02.3	<u> </u>	7.5	100.		100.1	<del></del>					
g 3		174			# · · · ·			<del> </del>		<u> </u>				-1 <del>;</del> ·					
<u> </u>			, ji s		ing <del>Table 1</del> 11		- 11		<del> </del>	· · ·		<del></del>	· · · · · · · · · · · · · · · · · · ·	<del></del>					
	FR	PT	c 1	C P47	/PTC	PORT-2	2 NO	PSH/PS	A NO P	SH/PSA	NO PS	1/PSA	NO PSH/PS	A NO	PSM/PSA	NO PSH/	PSA NO	PSM/PSA	NO PSM/PSA
			.9 249			4.92	与	n.8795	4 6 0	.89917	11 0.9	8146	16 0.9180	4 23	0.96032	29 6.92	182 34	0.96032	35 g.964gs
	- 1.					* 1		. 7757	5 7 o	05884	12 0-6	5050	17 0.9172	9 24	0.99052	30 0-97	7240 41	D.78894	36 1.15057
	-2	822	. 8 <sup>1</sup> 248	. 8 c	0109	4,92		0,7793	<b>3 / U</b>	1097801	12 00		40 - 0476	0 75	n 03088	31 1 02	2872 42	n.89827	37 1.05771
	3	818	.1 246	7 0.	0118	4,92	2 3	1.0189	0 8 0	98599	13 0.	14899	18: 0.74/4	0 23	D . > 3 0 0 0				78 4 04714
	4	820	.2 245	8 0.	0110	4,93	<u> </u>	1,3393	1 9	.99203	14 0.	96711	19 0.9652	3 26	0.91804	32 1.02	[642 33	1.77037	38 1.04714
	5	819	.7 243	5,20.	0110	4,92		1,4268	9 10 [	98750	15 0	96560	20 0.9640	9 27	0.93993	33 1.0	0033 40	0,79649	43 0.78366
111		825	.5 241	ı on.	ກຳກອ	4,94		• • • • • • • • • • • • • • • • • • • •	**************************************		3 N	<u> </u>	21 1:0139	2 28	0.93918	· · · ·			
		<u> </u>					1				:		:		1 1				
					14		- 12-						5.123	R/L	5.3	HACH	1.4	TEMP	101.1
<u> </u>	HI	ND TU	HNEL TITU	TEST C	CONDI	TONS		<u>7.</u> Alpha	746		B.009		ROLL	0.0		PSM(22)	1004-	. 0646	**
				4-14-34		ARAMETE	96 6	TO . P	21.7	TC	246,	0	PTC/PSA= HEATER	TOTAL	.38 : TEMPER	ATURE=	238.	017020	
	HE	ATER	PARAM	ETERS,	• • • •	,,,,,,,,	· ·	HEATER	TOTAL	PRESS							- · · · · ·		
											1		· · · · · · · · · · · · · · · · · · ·	· · ·			· · · · ·	· · · · · · · · · · · · · · · · · · ·	
1.5				fig.	· · · · · ·	<del></del>						1 -			· · · · · ·	1 23		<u> </u>	
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		FRAME	PSA	PTC	SKIN(1)	SKIN[2]	SKIN[3]	SKIN[4]	EGREES FAHRE SKIN(5) 40		EEDER-PIPE	TCH
		1	5.05	1169.15	99.8	94.5	94,5	95.8	u • 6	258.8	289.5	229.3
		2	5.03	1173.88	98.0	92.5	94.1	95.4	<u>5.0</u>	251.0	274.0	226.7
-		3	5,05	1159.67	98,8	94.5	94.9	96.2	9.0	245.4	264.9	225.4
	in a second	4	5,02	1176,51	98,8	94.1	94.5	96,2	8.0	239.3	255.8	223.3
<u> </u>		5	5,03	1166.51	98,4	92,8	94.1	96,7	0.0	232,8	247,5	220,2
		6	5,05	1176,51	98.8	94,5	94,5	98.0	0.0	227.2	241.0	219.4
		pha si				Section 1995	•				•	

FR PTC PORT-22 NO PSM/PSA NO PSM/PSA NO PSM/PSA NO PSM/PSA NO PSM/PSA NO PSM/PSA NO PSM/PSA NO PSM/PSA 1 1169.7 230.6 0.0108 4.86 5 0.88725 6 0.87727 11 0.97091 16 0.94328 23 0.94328 29 0.94405 34 0.96938 35 0.98012 2 1174.9 227.6 0.0107 4.85 4 0.78440 7 0.96017 12 0.96170 17 0.93100 24 0.97552 30 0.97091 41 0.87727 36 1.15435 3 0-97014 8 0.98780 13 0.93791 18 0.95172 25 0.93868 31 1.90008 42 0.89262 37 1.06225 3 1159.1 226.3 0.0169 4 1176.5 224.1 0.0107 2 1,30939 9 1.01082 14 0.93668 19 0.94865 26 0.92640 32 1.04229 39 0.86730 38 1.04152 4.85 5 1166.5 220.7 0,0109 4.85 1 1.39305 10 0.99777 15 0.98856 20 0.97475 27 0.93407 33 1.01313 40 0.89569 43 0.87497 6 1174.4 220.7 0.0108 21 0.99317 28 0.93561 4.85

WIND TUNNEL TEST CONDITIONS..... Q 7.738 オブレー 9.3 MACH 1:461 TEMP- 102.1 PT 18.009 PS 5.040 MODEL ATTITUDE..... ALPHA 0,00 BETA ROLL 0.0 PTC/PSA= 232.20 PSM(22)/PSA: HEATER TOTAL TEMPERATURE= 225. PSM(22)/PSA= 0,9626 AVERAGE MODEL/NOZZLE PARAMETERS., PTC= 1170.2 TC# 225.0 HEATER PARAMETERS ..... HEATER TOTAL PRESSURE= 1520.

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	144	FRAME	PSA	PTC _	SKIN[1]	SKINI21	SK[)[3]	SKINI41	SKIN[5] H	DOEL-STING !	FFEDER-PIPE	TCH
		1	ñ.c5	1587.04	105.6_	102.3	176.2	106.7	0.0	240.6	304.5	247.1
		2	5.03	1571.25	108.0	101.9	155.3	105,7	0.0	235,8	295,7	241.0
		3	5.05		108.0	101.4	105.3	106.2	0.0	232,8	273.1	237.6
		4	5.05		107.5	102.3	105.3	106.2	0.0	228.0	261.4	233.2
		5		1577.64	108.4	101.9	104.0	105,3	0.0	224.1	252.3	229,8
	Et.	6	5.n2		107.1	100.6	103.2	105.8	0.0	219,8	245.4	226.7
							i.		. '			· · · · · · · · · · · · · · · · · · ·
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	EP PTC TC P47/PTC	PORT-22 NO PSH/PSA NO PSH/PSA NO PSH/PSA NO PSH/PSA NO PSH/PSA NO PSH/PSA NO PSH/PSA	
	4 4587 A 247 4 0 0105	4,90 5 0.87442 6 0.86367 11 0.95887 16 0.94659 23 0.93353 29 0.94612 34 0.98113 35 0.97653	_
- <u></u>	7 454¥ 4 341 5 D 0106	4,90 4 0,78767 7 0.95503 12 0.95733 17 0.92816 24 0.97039 30 0.96808 41 0.95733 36 1.14466	
	Z 1507.0 241.5 0.0105	4,91 3 0,96501 8 0,97960 13 0,92739 18 0,94428 25 0,93277 31 8,98958 42 8,97346 37 1,05867	
	3.1981.8 230.0 0.0105	4,92 2 1,31278 9 1,01107 14 0,93584 19 0,94275 26 0,92816 32 1,04025 39 0,95273 38 1,05023	_
-	5 1580.2 230.6 0.0106	30 00074 00 04570 27 0 03430 33 1 01338 40 0.97960 43 0.95810	
	6 1590.2 227.2 0.0106	De A 00407 20 A 0747A	_

2	HIND TUNNEL TEST CONDITIONS Q 7.748 PT 18.013 PS	5,038 R/L 5.3 MACH 1,682 TERP 18150
	MODEL ATTITUDE	ROLL 0.0 PTC/PSA= 313.69 PSH1221/PSA= 0.9745
	AVECACE MODEL /MOTTLE PARAMETERS. PTC= 1000.0 10= 200.0	
	HEATER PARAMETERS HEATER TOTAL PRESSURE 1660.	HEATER TOTAL TERFERATORES COST

1.1.			<u></u>	ادر تعامید مسید مسید از این داد			TEVPERATU	RE DATAD	EGREES FAH	REVEETT		
1	;	FRAME	SA_	FTC	SK[N[1]	SKIN[2]	Skl. [3]	SKIN[4]	SKIN[5]	MODEL-STING	FEEDER-PIPE	TCH
			4.95	1826.51	97.5	93.6	95.4	94.1	0.0	215.9	360.7	263.6
		2	4.97	1813.88	95.4	94.5	57.1	94.9	0.0	216,8	334.7	259.7
		3	4.99	1830,20	98.0	92.8	94.5	94,9	0.0	215.0	313.9	254.0
:	<u> </u>	4	5.91	1819.15	97,5	92.8	94,5	94,9	0.0	214,2	297.0	249.7
		5	4,93	1821.25	97.5	93,6	94.5	95,4	0.0	213,3	284.4	246,7
1		6	4.99	1833,88	97.5	93.6	94.5	96.2	0.0	212.0	274.G	243.6
								9	•			

TC P47/PIC PORT-22 NO PSM/PSA NO PSM/PSA NO PSM/PSA NO PSM/PSA NO PSM/PSA NO PSM/PSA NO PSM/PSA NO PSM/PSA FR PTC 4,94 5 0,86049 6 0,86436 11 0,94499 16 0,95661 23 0,91785 29 0,94633 34 1,00398 35 0,98375 1 1633.9 264.4 0.0104 4 0.79925 7 0.94809 12 0.95506 17 0.93878 24 0.97444 30 0.97057 41 0.99692 36 1.13414 4.92 2 1813.9 260.1 0.0 4,93 3 8,97367 8 0.98142 13 0.72250 18 p.96126 25 0.93646 31 0.98917 42 1.01475 37 1.05972 3 1827.6 254.9 0.0104 2 1.31011 9 1.01398 14 0.93103 19 0.94266 26 0.92483 32 1.02871 39 0.99460 38 1.02173 4 1824.9 251.0 0.0104 4,91 4.92 1 1.40236 10 0.99460 15 0.96437 20 0.97677 27 0.93491 33 1.03569 40 1.02406 43 0.99692 5 1813.4 247.5 0.0105 21 0,97677 28 0,92405 6 1836.2 244,5 0.0104 4,93

MACH 1.488 TEMP 102.5 4,990 RYL 5.3 WIND TUNNEL TEST CONDITIONS .... 0 75784 PT 10.011 ROLL 0.0 BETA 0.00 MODEL ATTITUDE..... ALPHA 0.00 PTC/PSA# 365,55 PSH[22]/PSA= 0.9871 AVERAGE' HODEL/NOZZLE PARAMETERS. . PTG= \$824,0 TC= 253.8 HEATER TOTAL TEMPERATURE: 250. HEATER PARAMETERS...... HEATER TOTAL PRESSURE: 2830.

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	14 AUGUST	1973		HSFC TR PLUME	TECHNOPO(	Y TEST 42	OUTESCENT	PHASE			
							E DATADEG	REES FAHRE	WHEIT	DER-PIPE	TCH
. :	FRAME	PSA	PTC		SKINI21	SKIN[3]	SKIN[4]	3+0	230.2	285.3	233.7
	<u> </u>	5.01	1836.51	99.3	96.7 96.7	95.0 97.5	97.5	0.0	225.9	268.5	230.2
	2	5,02	1828.62	99.7	97.1	98.0	97.5	0.0	222.0	256.6	227.6
	3	5,00	1831.78	99.7	95.8	96,7	98.0	0.0	216.3	245.8	723.7
	4	5.05	1808,62 1836.51	99.7	95.4	96,7	97.5	0.0	212.9	239.7	221,5
<u>最</u>	5 6	5,04 5,03	1846.51	99.7	95,4	96,7	97.5	0.0	210.7	235,4	221.1
BENEF CONTRACTOR						•	·		· · · · · · · · · · · · · · · · · · ·		
32	11.5 11.5										IN PSW/PS 1
250	FR PTC	TC P47/	PTC PORT-2	ND PSM/PSA	NO PSH/PS	A NO PSH/PS	NO PSM/PSA	NO PSM/PSA	NO PSM/PSA	74 4 00004 3	5 4.78542
PE	1 1841.8	3 235,0 0,0	104 23,36	5 0.92001	6 0.9023	2 19 n.9492	4 16 0.98385	23 0.93308	29 0.96539	44 1-09924	6 1.22232
77 5	2 1828.1	<u> </u>	1104 5,48	4 0.80616	7 0.9830	9 12 0.9500	1 17 1.00893	24 8.96363	30 1.08386	42 1.11389	37 1.09309
4 .		7 228,5 0.0	104 5.48	3 1.01462	8 0.9877	0:13 0.8892	4 18 0.9889/	26 0-91539	31 1.11001	39 1.08462	38 1,17539
	4 1811.3	3 224.1 0.	0105 5.48	2 1.37693	9 1-010	14 0 9273	9 19 1:030/0 2 20 1 03300	27 n.9400	33 1,10078	48 1,18693	43 1,10232
	5 1842.	8 222.4 0.	•		7 16 0.984	52 15 1.VEES	24 -1 .8838		3		
	6 1847.	6 221.1 0.	0104 5,49	· · · · · · · · · · · · · · · · · · ·	<u> </u>		<u> </u>				
				0 17	739 PT	18.013 05	5,026	R/4 5.3	MACH .	.403	
	HODEL AT	TITUDE	ONDITIONS	ALPHA	0.00 B	ETA 0.30 cm. 227.0	ROLL PTC/PSA#	364.64	PSMI221/PSA	1.6833	.,
	HEATER P	ARAMLTERS.	LE PARAMETER	HEATER	TOTAL PRES	SURE 2030.	HEATER	TOTAL - TEMPE	RATURES 225		
74		:			<del></del>						· · · · · · · · · · · · · · · · · · ·
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					-TEMPERATUR	E BATADI	EGREES FAHR	ENHEIT		
FRAME	FSA	PTC	SKIN(1)	2KIN[5]	ZKIF (3)	SKIN(4)	SKINISI M	ODEL-STING FE	EDER-PIPE	TCH
1	1.21	1867.06	98.4	95.4	95.0	96.4	0.0	3a9.5	372.0	283.1
. 5	1,21	1854.95	95,4	92.5	95 <b>,</b> à	97.1	0.0	305,6	344.5	276.6
3	1.21	1845,48	98,4	92,8	95.4	97.1	0.0	301.3	323.1	271.6
44	1,21	1848.54	98.0	93,2	95,8	96,7	.0	297.4	307,4	?68.3
5	1.21	1841.27	98.0	91,9	94.5	96,7	0.0	291.8	294.4	262.7
						<del></del>				
· · ·										
FR PT	C TC P47	/PTC PORT-2:	2 NO PSM/PSA	NO PSH/PSA	NO PSM/PSA	SU BENIDE	MO DEV/DE	NO DEN /DE	NO DOM/DOL	20 BC440E
1 1873	.4 283.1 0.				•			29 0.94019		
* *	.4 277.0 0.									
	*							30 0.95420		
	.0 272.2 0.			i i				31 0.95420		
	.7 268.3 O.		, , , , , , , , , , , , , , , , , , ,	**				32 0.94783		
	.0 263.1 0.		1 2.68681	10 0.98351	15 1.01217	20 1.00707	27 1.0076	33 0.94911	49 1.06594	43 0.9956
6 1870	.7 260.5 O.	0103 1.21				21 1,00198	28 0,98733	<u> </u>		
	•		<del></del>	<del>-</del>		:		<del></del>		\$ <u>\$1</u>
WIND TU	NNEL TEST CO	ONDITIONS	0 10.29		0.033 PS	1.214		MACH 3,	480 TEMP	185.2
AVERAGE	HODEL/NOZZI	LE PARAMETERS	PTC= 1856	0.00 BETO 5.5 TC= TAL PRESSU	27077	PTC/PSA="1	\$0 528.68 OTAL TEMPER	PSME223/PSA= PATURE= 260.	6.9939	* .
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	· · · · · · · · · · · · · · · · · · ·	<u></u>				<u>.:</u>				
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· · · · · · · · · · · · · · · · · · ·				<u> </u>		· · · · · · · · · · · · · · · · · · ·	<del> </del>	· · · · · · · · · · · · · · · · · · ·	·· <del>···································</del>	
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<u> </u>	<u> </u>			CHANGA 1	SKIN[2]	TEMPERATUR	E DATADE	GREES FAHRE	NHEIT	EDER-PIPE	TOH
	FRAME	F <u>SA</u>	PTC 1490.22	5K[N[1] 97,5	96.2	98.0	86.7	0.0	334.7	359.4	277,9
20		1.22	1488,64	97.1	94.1	96.7	86,3	0.0	326,9	334,2	270.5
OF BOOK TO	3	1.22	1492.85	98.0	95.4	96.7	86,7	0.0	321.7	315.2	265,7
\$ \$	4	1.22	1482,85	97.5	94.5	96,2	86,7	G, 0	315,6	299.6	261.0
QUALITY I	. 5	1.22	1493.38	97.1	93.2	95,4	87.1	0.0	308.7	286,1	254,5
PAGE —	6	1.21	1496,53	97.1	94.1	95.8	88.0	0.0	303,5	277.0	251.0
] B					<u> </u>						
8							<u>:</u>				·
	FR PT	C TC P47	/PTC PORT+	22 NO PS#/PS	A NO PSM/PS	A NO PSM/PSA	NO PSM/PS	A NO PSH/PSA	NO PSH/PSA	NO PSM/PSA	NO PSH/PSA
		.1 277.9 0.							29 0.94022		
		.1 271.4 0.						•	35.0.95612		
		.3 266.6 D.				A CONTRACTOR OF THE CONTRACTOR			31 0,95840		
		.2 261,4 0.							32 0.95103		
4		.7 254.5 0.							33 8.95167		
		.0 251.9 0	Ť.		- <b>€</b> <b>§</b> -			\$550-0^480SE	73.		10 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
											,-1
-	UTUD TH	INNÉL TEST T	ONDETIONS	9 40	305 PT	90.152 - <b>PS</b>	1.256	7/L- 10.4	HACH. 3.	480 TEMP	111.0
· · · · · · · · · · · · · · · · · · ·	MODEL	TTTTHEF		ABPHA	0,00 195 188.7 AC	= 263.9	ROLL MEC/PSAN	0:0 1224:28	esh <b>t21/P</b> 8##	0.8943	
	HEATER	PARAMETERS.	********	HEATER	TOTAL PRESS	URG= 1670.	HEATER	totale temps	er i amende e		5
								- 18:			
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en en en en en en en en en en en en en e					•					. <u>.</u>	
		<u></u>	is a second								night and

----TEMPERATURE DATA---DEGREES FAHRENHEIT---

		FRAME	PSA	PTC	SKIN[1]	2K[M(S)	SKIN[3]	SKIN[4]	SKIN(5) HO	BEL-STING FE	BEK-PIPE	IGR
_		1	1.22	1148,62	81.9	78.9	81.5	82.4	0.0	222.0	<b>3</b> 21.2	244.9
		5	1,22	1,48,62	61.5	78,9	82.4	62.4	0.0	221,1	306,1	243.6
		3	1,22	1147,57	82,	79.8	81.9	81.9	0.0	221.5	292,6	243.2
			1,22	1156.51	82.4	79.8	81.9	81,9	0.0	222,4	284.0	242,8
<u> </u>		5	1.21	1145.46	82.4	78.0	80,6	82.4	0.0	221.1	274.8	239.3
	2	66	1,21	1150.20	82.4	79,3	8 <u>1</u> .5	81.9	0.0	221.1	268,3	239.7
			- 6 				:					
		77,8 "			•6	Ġ.,						

FR PTC TC P47/PTC PORT-22 NO PSM/PSA NO PSM/

WIND TUNNEL PEST CONDITIONS. ... G. LOUSE PROPERTY OF 1.256 RAL 40.55 MADE 1.480 TEMP 65.3

HODEL ATTIBLE ... ALPHA 0.00 BETA 0.00 ROLL 0.0

AND HODEL ATTIBLE PROPERTY PROPERTY PROPERTY TO 242.0 PELASA 945.31 PROPERTY DISC. 10.9970

MENTER HANAMETERS. ... HEATER TOTAL PRESSURES 1290. HENVER TOTAL FEMALE 1280.

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	FRANE	PSA	PTC	SKIN[1]	SKIN(2)	TEMPERATU	RE DATAD SKIN(4)	EGREES FAHRE	NHEIT DEL-STING FE	FRER-PIPE	TCH
	1	1,21	779,69	10:.4	103.2	108.0	109.3	0.0	319.9	376,7	283.1
	2	1,21	775.48	108,4	102.7	107,1	108.4	0.0	316,9	361.1	281.4
	3	1,21	778,11	188.0	103.2	106.7	107.5	0.0	313,4	345.9	279.2
! }		1.21	777,59	108.0	103.2	106,2	107.5	0.0	310.4	332.9	276.1
	5	1.21_	782,32	108.4	101.9	105.8	107,1	0.0	307.4	322.5	273.5
1	6	1,21	779,16	107.5	100.1	104.0	106.2	0.0	303.0	311.3	269.2
<b>d</b>		F1 1									

FR PTC TC P47/PTC PORT-22 NO PSM/PSA NO PSM/

									concen E.W	SELUCIT T		
		FRAHE	PSA	PTC	SKIN[1]	SKIN[2]	SKIN[3]	RE DATAD SKIN[4]	SKIN[5]	HODEL-STING	FEEDER-PIPE	ТСН
		: 1	1,21	382,32	96.2	92.8	94,5	95,4	0.0	269.6	329.5	241.0
		2	1.21	381.27	95.4	92.3	93.6	94.9	0.0	268,3	323.0	243,2
		3		378.64	95.4	90.2	92.8	93.6	0.0	266.6	316,9	244,9
	:	4	1.22	361,27	95.4	89.7	91,9	93.2	0.0	263,6	309.5	244,9
		5		380.22	95.4	90.2	92.8	92.8	0.0	261.8	304,3	245.4
477 542		6	1,21	383.90	94.5	68,4	91.0	92.3	0.0	259.2	297.8	244,5
	·				- Table 1							

FF	}	PŤC	TC	P47/PTC	PORT-22	NO PSH/PSA	NO PSH/PSA	NO	PSH/PSA	NO	PSM/PSA	NO	PSH/PSA	NO	PSH/PSA	NO	PSM/PSA	NO	PSM/PSA	
	i d	82.8	241.9	9-0109	1:21	5 0.83941	6 0.88144	-11	0.96041	16	0.98525	:23	0.95598	99	8.94258	-36	93876	35	0.74005	_
							7 0495323													_
							.8:01.93018				***		4 *.		~					
	-	कृता भारताल <b>र</b> चित्र		0.0108			9.1.00181													
	٠ <u>.</u>		7	a.nin9			in n.99162					si .								
. 4		82:8	244.9								1.00882				2 7	<u>:                                    </u>	· 34 /		1 1	

HIND TUNNET TEST CONDITIONS... O 10793 PT 98040 PS 1225 RVL 1045 MACHE 3460 TEMP 105.6 HODEL ATTITUDE... ALPHA 0.00 RETA D.00 ROLG 0.0 PS422776AF-0-944 EVERGE MODEL/NOZZLE PARAMETERS... PTG= 380.4 TG= 2444 PTG/PSAF 125.16 PS422776AF-0-944 HEATER PARAMETERS... REATER-TGTAL PRESSURBY 309; HEATER TSTAL TEMPERATURES 255.

PLUME TECHNOLOGY TEST ... NON-QUIERCENT PHASE

FRAME	PSA	PTC	SKINI11	SKIN(2)	-TEMPERATURE Skin[3]	DATADE Skin[4]	GREES FAHRENH SKIN(5; MODE	EIT L-STING FEEDE	R-PIPE TO	h
1,021	7,41	577,09	88.9	96,7	88,9	90.2	0.5	230.2	419.6 274	4.0
		a								
FR PIC	TC P47/PT0	PORT-22	NO PSH/PSA	NO PSH/PSA	N' MSH/PSA	NU PSH/PSA	NO PSHIPSA N	O PSH/PSA NO	PSH/PSA NO PSH	/PSA
	274,1 0.010		5 0,89902	6 1.09077	11 0.58042	10 1.05703	23 0.92668 2	9 1.83364 34	0.91103 35 1.13	2600
	275.3 0.010								0.56196 36 0.9	
	278.3 0.010	-	3 0,95642	8 1.00234	13 0,95277	18 1.01695	25 0.94077 3	1 0.97880 42	C. F6078 37 1.0	2999
1.5	278,7 0,010		2 1,28931	9 9,98460	14 1,01486	19 1.01121	26 1.81799 3	2 0.98825 39	0.55778 38 0.9	1103
	279.2 0.010	1.0	1 1,36602	10 0,97938	15 1,01868	28 0.99451	27 1.01538 3	3 0.98564 40	0.57239 43 8.5	6717
	2 281.4 0.410	•		100			5 28 1.02582			

MIND TUNNEL TEST CONDITIONS...., Q 7,445 PT 18,004 PS 7,413 R/L 5.5 MACH 1,201 TEMP 180.

MODEL ATTITUDE... ALPHA 0.00 BETA 0.00 ROLL 0.0

AVERAGE MODEL/NOZZLE PARAMEJERS. PTC= 376,3 TC= 277,7 PTC/PSA= 50.76 PSM1221/PSA= 0.9888

HEATER PARAMETERS.... HEATER TOTAL PRESSURE= 430. HEATER TOTAL TEMPERATURE= 325.

· ;	FRAKE	PSA		SKIN[1]						FEEDER-PIPE	TCH
	1	7,44	796.57	86.7	88,4	91.0	94.1	0.0	273.1	380.6	796.1
· ·	2	7.42	806.04	86.7	58.0	90.2	95.8	0.0	261.0	352.0	297.8

FR PTC TC P47/PTC PORT-22 ND PSH/PSA NO PSH/

HIND TUNNEL TEST CONDITIONS..... Q 7.480 PT 18.004 PS 7.428 R/L 5.5 MACH 1.200 TEMP 99.7 MODEL ATTITUDE...... ALPHA 0.00 BETA 0.00 ROLL 0.0 AVERAGE MODEL/NOZZLE PARAMETERS.. PTC= 799.2 TC= 296.5 FTC/PSA= 107.59 PSM(221/PSA= 1.2495 HEATER PARAMETERS... HEATER TOTAL PRESSURE= 830. HEATER TOTAL TEMP-RATURE= 325.

## HSFC TRISONIC WIND TUNNEL HUNTSVILLE, ALABAMA PLUME TECHNOLOGY TEST. WON-QUIESCENT PHASE

	1.		_			TEMPERATURI	E DATADI	EGREES FAHR	ENHELT	**************************************	TCH
FRAHE	1.54	PSA	PTC	SKINITI			SKIN[4]	SKIN[5] N	ODEL-STING	FEEDER-PIPE	I UM
1		7.37	1092.88	89,7	90.6	94,5	97.5	D	279,1	358.1	296.5
2	77.	1.00	1118.15		1	and the second s	99.3	0.6	259.2	337.7	298.7
100			100	and the second							

FR PIC IC P47/PTC PORT-22 NO PSM/PSA NO PSM/

			· · · · · · · · · · · · · · · · · · ·		TE TECHNOLOG	. 10. 1.11					
-		PSA .	PTC	SKINILI	SKIN(2)	-TEMPERATUR	E DATADE	GREES FAHREN SKIN(5) MOD	EL-STING F	EEDER-P: **	TC#_
<del></del>	FRAME	7.41	1435.52		111.0		116.8	<u>y.0</u>	287.4	343 £	304
-	. 2	7.42	· · · · · · · · · · · · · · · · ·	121.8			116.4	0.0	273.:_	331- <u>f</u>	<u>304</u> .
		eren eren eren eren eren eren eren eren	e and an entered to the						e <del>all all all all all all all all all al</del>	aliania Alianianianianianianianianianianianianiani	
<del></del>	ە - سىمائىلىپ - ئاپى لىد. راد										
	FR PIC	Tr P47/	PTC PORT-22	NO PSM/PS	A NO PSH/PS	NO FSM/PSA	NO PSM/PSA	NO PSM/PSA	NO PSH/PSA	NO PSM/= SL	NO PSM/
		303.9 0.0		5 n.8929	p 6 1-0018	4 11 p.98274	<u>16 1.00810</u>	23 0.93043	29 1 - 03156	34 0.03.44	32.1.12
		304.8 0.0		4 0.7678	0 7 0.9971	5 12 Q.9/474	17 1.04824	24 1.00445	30 1.01018	41 0.66757	36 0.95
		304.3 0 0		3 8.9497	2 8 0.9903	8 13 0.95076	6 19 1.01696	25 r. 94834	31 0.97787	42 0.8/414	37 1.02
	1457.1		104 6.84	2 1 2874	9 0.9825	6 14 1 8143	5 19 1.00966	26 1-01905	32 0.98777	39 0.86371	38 0.91
	5 1451.3			1 1.3458	37 10 0.976B	2 15 1.0049	7 20 0.99611	<u>2</u> 7 1 <u>01123</u>	33 0.98099	40 0.87935	43 0 - 87
		* 1.						28 1.01800			
		305.2 0.0	12 12								
			)ant Tions	0 7.	.479 PT	17.095 PS		R/L 5.5	MACH 1	1.200 TF 46	99./
	WINEL STT	TTÜBE	F PAPAMETERS	ALPHA	444.6 TC	TA 0.00	DTC/DEA-	194.67	PSH1221/PS/	4= n.0212	
	HEATER PA	PAMETERS.		HEATER	TOTAL PRESS	URE= 1645.	HEATER	TOTAL TEMPER	# 1 UPC = 333		
<u> </u>	, <del></del>						ومدهان ويستنيس الاست				
	-			***						د د د ماهیمینونونسست با آنوان	د ماه د ال <del>منبيت</del>
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	gs AUGUST 1973	MSFC TRISONIC WI	NP TUNNEL HUNTSVIL	LE, ALABAMA	TE	ST 575 RUN 14
	· · · · · · · · · · · · · · · · · · ·	PLUME TECHNOLD	GY TEST NON-QUIESO	ENJ_CROSE		
				PROPER FAMOUR	UE 1 Taranasana	
		SKINITI SKINIZI	TEMPERATURE DATA-	DEGREES FAHREN SKINISI MOD	FL-STING FEEDE	R-PIPE TC
	<u>1 7.48 .1813.</u>	94 114.9 107.5	111.4 108.	8 0.0	270.5	353.3 313
	7 44 1909	.67 114.5 104.9	108.8 110.0	6 <u>0.0</u>	261.8	333.0 _ 310
	7,40 1000.					•
ORIGINAL PAGE IS	<u></u>					
70						
S =		DRT-22 NO PSM/PSA NO PSM/PS	A NO BEHIZES MA POM	/PCA NO PCH/PCA	NO PSH/PSA NO	PSM/PSA NO PSM
F						
	1 1823.4 311.3 1.8102	7.36 5 0.8995n 6 1.0010	0 11 6.98236 16 1.0	0514 23 0-91711	29 1.02896 34	n.95157 35 1-13
7.2		7-07 4 0-78557 7 0-9870				
· 🖭	S 191A'S (15.0.7) at 62				74 0 07407 47	0.04352.37.1.0
(g)		/.ue3_0.95459 # 0.9968				
Ø	- 1826.5 Stor4 0:0193	7.07 2 1.26167 9 0.4756	2 14 1. 1012 19 1.0	n928 26 1.01653.	32 0.98546 39	0.93316 35 0.9
and the second s				0 7 7 J. E. L. J. L. P. L. L. Y. Y. Y. Y. Y. Y. Y. Y. Y. Y. Y. Y. Y.	The second of the last of the	<del></del>
	5 1818 4 9 . C 104	7.06 1 1.37250 10 0.9802		the state of the s		
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	6 1833.5 318.4 J.0163	7.06 NS Q 7.469 PT	21 0.9 18. 14 PS 7.46	725 <u>2 28 1.01964</u> 9R/L5.5_		
	o 1833. 310.4 J.0103  WIND TUNNEL TEST CONDITION MODEL ATTITUE	7.06  NS 0 7.469 PT  ALPHA 0.00 BE	21 0.9  18. 14 PS 7.46  TA 0.00 POLL  18. 17.3 PTG/PS	7252 28 1.01964 9 R/L _5.5. 0.0	MACH 1,195	TEMP 99.5
	o 1833. 310.4 J.0103  UIND TUNNEL TEST CONDITION MODEL ATTITUE	7.06 NS Q 7.469 PT	21 0.9  18. 14 PS 7.46  TA 0.00 POLL  18. 17.3 PTG/PS	725 <u>2 28 1.01964</u> 9 R/L _5.5.	MACH 1,195	TEMP 99.5
	o 1833. 310.4 J.0103  UIND TUNNEL TEST CONDITION MODEL ATTITUE	7.06  NS 0 7.469 PT  ALPHA 0.00 BE	21 0.9  18. 14 PS 7.46  TA 0.00 POLL  18. 17.3 PTG/PS	7252 28 1.01964 9 R/L _5.5. 0.0	MACH 1,195	TEMP 99.5
	o 1833. 310.4 J.0103  UIND TUNNEL TEST CONDITION MODEL ATTITUE	7.06  NS 0 7.469 PT  ALPHA 0.00 BE	21 0.9  18. 14 PS 7.46  TA 0.00 POLL  18. 17.3 PTG/PS	7252 28 1.01964 9 R/L _5.5. 0.0	MACH 1,195	TEMP 99.5
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	o 1833. 310.4 J.0103  UIND TUNNEL TEST CONDITION MODEL ATTITUE	7.06  NS 0 7.469 PT  ALPHA 0.00 BE	21 0.9  18. 14 PS 7.46  TA 0.00 POLL  18. 17.3 PTG/PS	7252 28 1.01964 9 R/L _5.5. 0.0	MACH 1,195	TEMP 99.5
	o 1833. 310.4 J.0103  UIND TUNNEL TEST CONDITION MODEL ATTITUE	7.06  NS 0 7.469 PT  ALPHA 0.00 BE	21 0.9  18. 14 PS 7.46  TA 0.00 POLL  18. 17.3 PTG/PS	7252 28 1.01964 9 R/L _5.5. 0.0	MACH 1,195	ТЕМР 99 <sub>2</sub> 5
	o 1833. 310.4 J.0103  UIND TUNNEL TEST CONDITION MODEL ATTITUE	7.06  NS 0 7.469 PT  ALPHA 0.00 BE	21 0.9  18. 14 PS 7.46  TA 0.00 POLL  18. 17.3 PTG/PS	7252 28 1.01964 9 R/L _5.5. 0.0	MACH 1,195	ТЕМР 99 <sub>2</sub> 5
	o 1833. 310.4 J.0103  UIND TUNNEL TEST CONDITION MODEL ATTITUE	7.06  NS 0 7.469 PT  ALPHA 0.00 BE	21 0.9  18. 14 PS 7.46  TA 0.00 POLL  18. 17.3 PTG/PS	7252 28 1.01964 9 R/L _5.5. 0.0	MACH 1,195	ТЕМР 99 <sub>2</sub> 5
	o 1833. 310.4 J.0103  UIND TUNNEL TEST CONDITION MODEL ATTITUE	7.06  NS 0 7.469 PT  ALPHA 0.00 BE	21 0.9  18. 14 PS 7.46  TA 0.00 POLL  18. 17.3 PTG/PS	7252 28 1.01964 9 R/L _5.5. 0.0	MACH 1,195	ТЕМР 99 <sub>2</sub> 5
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	o 1833. 310.4 J.0103  UIND TUNNEL TEST CONDITION MODEL ATTITUE	7.06  NS 0 7.469 PT  ALPHA 0.00 BE	21 0.9  18. 14 PS 7.46  TA 0.00 POLL  18. 17.3 PTG/PS	7252 28 1.01964 9 R/L _5.5. 0.0	MACH 1,195	ТЕМР 99 <sub>2</sub> 5
	o 1833. 310.4 J.0103  UIND TUNNEL TEST CONDITION MODEL ATTITUE	7.06  NS 0 7.469 PT  ALPHA 0.00 BE	21 0.9  18. 14 PS 7.46  TA 0.00 POLL  18. 17.3 PTG/PS	7252 28 1.01964 9 R/L _5.5. 0.0	MACH 1,195	ТЕМР 99 <sub>2</sub> 5
	o 1833. 310.4 J.0103  UIND TUNNEL TEST CONDITION MODEL ATTITUE	7.06  NS 0 7.469 PT  ALPHA 0.00 BE	21 0.9  18. 14 PS 7.46  TA 0.00 POLL  18. 17.3 PTG/PS	7252 28 1.01964 9 R/L _5.5. 0.0	MACH 1,195	ТЕМР 99 <sub>2</sub> 5
	o 1833. 310.4 J.0103  UIND TUNNEL TEST CONDITION MODEL ATTITUE	7.06  NS 0 7.469 PT  ALPHA 0.00 BE	21 0.9  18. 14 PS 7.46  TA 0.00 POLL  18. 17.3 PTG/PS	7252 28 1.01964 9 R/L _5.5. 0.0	MACH 1,195	ТЕМР 99 <sub>2</sub> 5

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09 AUGUST 1-/3	MSEC TRISONIC WIND TUNNEL HUNTSVILLE, ALARAMA TEST 575 RUN PLUME TECHNOLOGY TESTNON-QUIESCENT PHASE	150/0
	TEMPERATURE DATADEGREES FAHRENHEIT	Tru
FRAME PSA PTC 1.16.94	SKIN(1) SKIN(2) SKIN(3) SKIN(4) SKIN(5) HODEL-SIING FEEDER-PIPE 1  98.6 96.7 67.1 97.1 0.0 251.9 346.8 3	303.0
2 10.62 1744.99	95.8 97.1 98.0 99.7 0.0 244.9 325.6 3	303 <u>.9</u>
	NO PSM/PSA NO PSM/PSA	
1 1727.1 302.6 . 1:4 10.20 2 1742.4 304.5 1.0104 10.20	5 n.99716 6 0.984n5 11 n.96402 16 0.98442 23 n.96430 29 1.01501 34 n.97968 35 1. 4 0.95237 7 0.97422 12 n.97094 17 1.01683 24 0.96694 30 1.00336 41 0.96940 36 1.	
	3 0.56426 8 1.99806 13 0.97531 18 1.00190 25 0.96220 31 1.00008 42 0.97713 37 1	. <u>0</u> 321 <u>3</u>
# 1740.0 3-2.2 0.0°53 16.30	2 1.08166 9 0.97713 14 0.97932 19 1.00044 26 0.98332 32 0.99498 39 0.96220 38 0 1 1.14721 10 0.96803 15 0.98988 20 0.99753 27 0.99498 33 0.99243 40 0.96766 43 0	
- 174n.3 303.0 0.0154 10.31		
HIAD THANK IEST CON ITIOS	Q 6.640 PT 17.902 PS 10.621 R/L 5.1 HACH 0.901 TFHP 101	.1
AVERAGE MANI-LINDIZEE PARAMETERS	ALPHA 0.00 BETA 0.00 POLL 0.0	
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MSFC TRISONIC WIND TUNNEL HUNTSVILLE, ALABAMA
PLUME TECHNOLOGY TEST...NON-QUIESCENT PHASE

TEST 575 BUN 151/0

D8 AUCUST 10"3

ei i	24.2		FRAME	. 25	A	PT;	. Sk1	*[1]	SŘ I	WLS]	• • •			-	REES FA		-STING	FFEDE	8-2,25		<u>T</u> CH
<del>5</del>	<u></u>		_ i <b>1</b>	i i	.75	- 45.73		91.6		94.I	ç	٥.٤	97	,5	0(	<u></u>	251.4		3-1.1		297
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			FP PTC	tr.	P47/P7	C PORT	ร้อ ทบ	PSH/PS	<u>v.</u> v.o 1	PS-/PS	4 /n s	5~/PSA	ı in ps	M/PSA	NU PS4	PSA NI	PSM/P	SA NO	ESY/-SA	NO F	- <u>S</u> m/
			1 1081.	<b>2</b> 1 .	3 - 1 - 11 - 1	17	A 5	1.0017	9 _6_	0.9991	9,11 (	.07219	16 9.	98338	23 0.97	039 2	9 1.011	34	r.=2857	. 35 1	į - 94
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· .		H	3 10F2.	, See.	3 1.9	4 3.7	70 3	r.8981	9 8	0.9949	3 13 (	.98266	18 C.	99746	25 0.07	219 3	1 991	58 42	0.40252	37 1	r • 0S
ا سب		· · · · · · · · · · · · · · · · · · ·	4 10F6.0		1.311	9.7	9 2	1.0826	<u>5 9 </u>	0.9848	3_14	.98374	19 9.	99205	26 0.96	663 3	2 0.980	5 39	n.eaean	38 (	1.92
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			6 1086.6	5 297,	8 0.014	я 9.6	6						21 Q <u>.</u>	95233	28 0.98	266		-	•		-
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			MIND TUD MARKE ATT ALERAGE S HEATER PA	ነ ተ ፡፡ ማህ ር /	 NP7/LF	PananET:	A	ALPHA PTC= 10		6 6€1 1∏:	= 247	3.40 .3		0. SA= 1	01.59	PS.	41221/P 41221/P UPE= 33	- A= N.		101	1.0

	ERAHE	PCA	PTC SI	TNIT	-2K10[S]		SKINI4)			FEDER-FIPE	TCH
-		14.75	835.52	819	89.7	c2. <u>6</u>	93.2	2-0	237.6	<u>369.</u> <u>3</u>	380.0
	2	16.74	850.78	P3.7	91.1		96.7	0.0	232.4	349.4	301.7
									· • • • • • • • • • • • • • • • • • • •		•
<del></del>	FRPIC	IC P47/PT	C PORT-22 NO	PSM/PSA	NO PSM/PS	NO PSY/PSA	NO PSM/PSA	NO PS-/PSA	MO PSM/PSA	NO PSY/PSA	HO PSMZPSA
	1 836.0	3/0-0 0-010	9.46 <u>5</u>	<u> </u>	6 0.9846	L 11 F.96446	16 0.97525	23 g.9648 <u>2</u>	29 1.00348	34 r. <u>-</u> 8994	35 1.04 <u>1</u> 11
	2 840.8			0,95078	7 0 9 7 5 6 1	L <b>12</b> [ 97022	17 1.00728	24 0.96770	30 0.98821	41 0.8 <u>475</u> n	36 1.01484
	3_846.6			6.48035	8 0 - 98749	13 r.º/345	18 0.9 <u>87</u> 49	2 <u>5 0</u> .90230	31 0.97957	42 P.65218	37_1.01520
<del></del>	4 850.8	340.9 0.010	7 9-462	1.07530	9_0.97741	14 0.97525	19 0.98065	25 <u>0.</u> 97813	32 0.96696	39 0.84174	38 0.88745
1.0	5_849.2						20 0.97022				43, <u>0.84786</u>
<del> </del>	6 852.4						21 0.94718	28 0.98677	and approximately the same		
	•-,1 1	al de la companya de la companya de la companya de la companya de la companya de la companya de la companya de		,	نوا د ما مساد	<del>.</del>				<del>-</del>	

HIND TUNNEL TEST CONSITIONS..... Q 5,976 PT 18.011 PS 10.748 R/L 5.1 MACH 0.891 TEMP 100.0 MODEL ATTITUDE..... ALPHA 0.00 BETA 0.00 ROLL 0.0 AVERAGE MODEL/NOZZLE PARAMETERS.. PIC= 846.0 TC= 310.7 PTC/PSA= 78.71 PSM1221/PSA= 0.8799 HEATER PARAMETERS... HEATER TOTAL PRESSURE= 855. HEATER TOTAL TEMPERATURE= 325.

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	FRANE	PSA	<b>51</b> ¢	_SK[N[1]					HELISTING FE	ENER-PIPE	TCH
· · · · · · · · · · · · · · · · · · ·	1	10.60	376.04	96.2	93.2	95.8	97.5	0.0	258.8	382.8	283.
	, <u>2</u>	10.69	379.73	9 <u>1</u> .0	91.9	95.4	97.5	_0.0	247.1	365.4	289.
F	PIC	TC P47/P	TC PORT-22	NO PSH/PSA	NO PSH/PSA	NO PSM/PSA	NO PSM/PSA	NO PSM/PSA	NO PSH/PSA	NO PSM/PSA	NO PSM/F
1	377.6	203.1 0.01	9,12	5 n.9974n	6 0.98474	11 0.96413	16 0.97390	23 0.96558	29 1.00174	34 0.85726	35 1 04
	378.7	285.3 0.81	9.12	4 0.9514/	7 0.97570	12 (.96992	17 1.00680	24 0.96775	30 0.98691	1178223	36 1.015
	375.0	285.3 0.01	08 9.11	3 0.08819	8 0.98872	13 0.97426	18 0.98655	25 0.96305	31 0.97787	12 0.78548	37 1.01
		285.7 0.011							32 0.96160		
										-	
					10 0.46773				33 0.93954	in neTedan	42 8.70
	378.7	286,6 0.01	17 <u>9.10</u>				21 0.93737	28 0.98402			
		FL TEST COM	ITIONS		04 P7 1			7/L 5.1	MACH 0.1	B96 TEMP	100.5
A\	ERAGE M	ODELZNOZZLE	PARAMETERS	PTC= 37	8.0 TC=	785.3	PTC/PSA=	35.34	SH1551/629=	0.8517	
H:	TAIPH MA	H4461645		· MENIEW I	DTAL PHESSU	KE= 473.	HEATER IL	TIL TEMPERA	HUME= 355.	•	

1 ₹			19							4	
	08 AUGUST 197	3		MSFC TR PLUME	TECHNOLOG	D TUNNEL Y IESTNO	HUNTSVILLE, N-QUIESCENT	ALABAMA PHASE		TEST 575	RUN 155/(
	FRAME H		PTC	<u>\$K</u> [N(1)	skimisi.	-TEMPERATUR	E DATABE SKINJ41	GREES FAHRE	NHEIT	EEDED-PIPE	TCH
				. F7_1		91.9				543.6	341 . 2
		•	375,52	86.4		\$1.9 <u></u>	93,2	p <u></u> _0	297.4	51,0.7	352.0
•	· · · · · · · · ·		, . <del></del> .	<u></u>	<u> </u>			and the second s			
***	FP PTC 1	rc 947/015	P087-22	NC PSM/PSA	NO PSM/PS	NO PSHIPSA	NO PSH/PSA	NO PSMIPSA	NO PSHIPSA	NO PSM/PS&	NO PSM/PS
•••	1 367,1 341			5 0.99858	6 0.9863	11 6,96576	16 0.97514	73 1.96648	29_1.07254	34 n.85974	35_1.0418
	2 370,5 345			4 0.95206	7 0 97580	5 12 C.97117	17 1-00697	24_0,96865	30.0.9 <u>87</u> 04	41 0.78292	36 1.0151
***	3 372.9 34			3 g.#9n39	6 0 9 <b>361</b>	2 13 n.97405	18 9,98560	25 <u>n.9625</u> 1	31 0.97622	42 0.78545	37 1-0140
	4 373.9 348	4.1 0.0176	9.13	2 1.07719	9 0-9776	5_14_F,97405	19 0.97802	26 0.97694	32 0-9610	39 0.77571	38 0.8564
****	5 372.5	1.7 0.4147	9.14	1 1.14896	10 0.949	15 0.48127	20 0.9654	27 0.98595	33 1.93943	<u>40 0-7775</u> 1	43_0,782
	5 376.P 350					· ·	21 0.93943	<u>3 28 0.98596</u>	·	· .	
	HIND TUNNEL	TEST COMBI			81 PT	17.998 PS	10.726	0 - 11		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	101.0
A COMMENT OF THE STATE OF THE S	MODEL ATTITUE AVERAGE MODEL HEATER PARAM	7NO771 E S	MADAMETERS.		0.00 BE 2.2 TC OTAL PRESS	= 347.2	PTC/PSA=		PSM1221/PS	1= F,852A	
								- VARIA			
· Company								ر و و و مسورت			

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				PL <u>U"</u>			NON-QUIESCE					
	FRAME	PSA	PTC	SKIN(1)	skinis)	SK [A (3)	SKINI41	SKIN(5)	MENHEIT MODEL-STI	NG FEEDER-	PIPE	ŢCH .
	<b>1</b>	10.74	746.57	86.9	90.6	89.3	87.6	0.0	289	.2 5	17.6	372.8
	2	10.77	760.25	91.5	92.3	02.3	92.A	0.0	283	4	79.5	379.3
						:		<u> </u>				
				·.								
	FR PTC	TC 947/6	PTC PORT-2:	NO PSH/PS/	NO PSM/PS	NO PSM/F	SA NO PSM/PS	SA NO PSM/	SA NO PEH	I/PSA NO PS	M/PSA	NO PSM/PSA
	1 742.9	3/2.8 0.01	109 9.38				97 16 0.976					
PAGE IN	2 740.3	374.1 0.01				24	244 17 1.0P7/	and the second s	***	17		
16	3 750.H	376.7 0.01	108 9.41	3 0.89479	9 8 0.9896	) 13 n. 979	531 18 n.988	25 <b>2</b> 5 0.96	489 3 <u>1</u> 0 <u>.9</u>	27963 42 D.	83R34	37 <u>1</u> .01629
20	4 750.3	376.0 0.0	:38 9.40	2 1.07741	9 0.9789	14 6,979	567 19 0.9AO	35 26 0.97	32 0 - 9	74525 3 <u>9</u> 0.	82720	3 <u>8 0.879</u> 69
		378.9 0.01					394 20 0.970					
			Tarja saaran ee 💳	<b>en englande e</b>				and the second second	and the second second			
		270 A n n	100 9.42			54 <u>84</u>	21 0.946	55 28 0.98	754		<del></del>	
		379,8 0.0					21 0.946	55 28 0.98	754			ا مستند النواد العام الموادية واستندار
	6 755.5									0.889	TEMP	101.2
	6 755.5	FL TEST CO	MITIONS	0 5,'	957 PT 0.00 BF	17.992 F	PS 10.760	R/L 5	.1 MACH	0.889 1/PSA= 0.87		101.2
	6 755.5 WIND TUNN WORL ATT	FL TEST CO	MITIONS	0 5.5	957 PT 0.00 BF 49.0 TC	17.992   1  A 0.0    376.7	PS 10.760 0 POLL PTC/PSA=	R/L 5	.1 MACH	1/PSA= 0.87		1 <sup>n</sup> 1.2
	6 755.5 WIND TUNN WORL ATT	FL TEST CO	MITIONS	0 5.1 ALPHA	957 PT 0.00 BF 49.0 TC	17.992   1  A 0.0    376.7	PS 10.760 0 POLL PTC/PSA=	R/L 5	.1 MACH	1/PSA= 0.87		101.2
	6 755.5 WIND TUNN WORL ATT	FL TEST CO	MITIONS	0 5.1 ALPHA	957 PT 0.00 BF 49.0 TC	17.992   1  A 0.0    376.7	PS 10.760 0 POLL PTC/PSA=	R/L 5	.1 MACH	1/PSA= 0.87		101.2
	6 755.5 WIND TUNN WORL ATT	FL TEST CO	MITIONS	0 5.1 ALPHA	957 PT 0.00 BF 49.0 TC	17.992   1  A 0.0    376.7	PS 10.760 0 POLL PTC/PSA=	R/L 5	.1 MACH	1/PSA= 0.87		101.2
	6 755.5 WIND TUNN WORL ATT	FL TEST CO	MITIONS	0 5.1 ALPHA	957 PT 0.00 BF 49.0 TC	17.992   1  A 0.0    376.7	PS 10.760 0 POLL PTC/PSA=	R/L 5	.1 MACH	1/PSA= 0.87		101.2
	6 755.5 WIND TUNN WORL ATT	FL TEST CO	MITIONS	0 5.1 ALPHA	957 PT 0.00 BF 49.0 TC	17.992   1  A 0.0    376.7	PS 10.760 0 POLL PTC/PSA=	R/L 5	.1 MACH	1/PSA= 0.87		1/1.2
	6 755.5 WIND TUNN WORL ATT	FL TEST CO	MITIONS	0 5.1 ALPHA	957 PT 0.00 BF 49.0 TC	17.992   1  A 0.0    376.7	PS 10.760 0 POLL PTC/PSA=	R/L 5	.1 MACH	1/PSA= 0.87		102.2
	6 755.5 WIND TUNN WORL ATT	FL TEST CO	MITIONS	0 5.1 ALPHA	957 PT 0.00 BF 49.0 TC	17.992   1  A 0.0    376.7	PS 10.760 0 POLL PTC/PSA=	R/L 5	.1 MACH	1/PSA= 0.87		101.2
	6 755.5 WIND TUNN WORL ATT	FL TEST CO	MITIONS	0 5.1 ALPHA	957 PT 0.00 BF 49.0 TC	17.992   1  A 0.0    376.7	PS 10.760 0 POLL PTC/PSA=	R/L 5	.1 MACH	1/PSA= 0.87		102.2
	6 755.5 WIND TUNN WORL ATT	FL TEST CO	MITIONS	0 5.1 ALPHA	957 PT 0.00 BF 49.0 TC	17.992   1  A 0.0    376.7	PS 10.760 0 POLL PTC/PSA=	R/L 5	.1 MACH	1/PSA= 0.87		101.2

6 1520.3 398.0 0.0105 10.20 21 0.97867 28 0.99348

MSEC TRISONIC WIND TUNNEL HUNTSVILLE, ALABAMA

PLUME TECHNOLOGY TEST ... NON-QUIESCENT PHASE

TEMPERATURE DATA--- DEGREES FAHRENHETT----

TEST 575 RLN 158/0

HEATER PARAMETERS..... HEATER TOTAL PRESSURES 1670. HEATER TOTAL TEMPERATURES 450.

A-5

08 AUGUST 1973

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	MSEC TOISONIC WIND TURNEL HUNTSVILLE, ALABAMA TEST 575	RUN 163/0
QB AUGUST 19/3	MSEC TRISONIC WIND TUNNEL HUNTSVILLE, ALABAMA TEST 373 PLUME TECHNOLOGY TEST NON-QUIESCE L.PHASE	
. OTE	SKINI1 SKINI2 SKINI3 SKINI4 SKINI5 SKINI5 SKINIS FEEDER-PIPE	7CH
	52 101.4 96.7 97.1 102.7 0.0 341.6 48d.1.	180.2
		382.8
		The second second
	DEMANDE AND REMANDE NO PSHAPSA NO	O PSHZRSA
FR PTC TC P47/PTC POR	RT-72 NO PSM/PSA NO PS	5 2.76540
2 787.6 380.2 0.01096	6,70 4 0.78617 7, 0.99613 12 0.97737 17 1.05187 24 1.01436 30 1.01593 41 0.71740 3	6 ( 29613
3 798.7 380.2 0.0107 6	6.70 3 0.95914 8 n.99873 13 0.95497 18 1.01957 25 0.94299 31 0.96415 42 0.72678	17 1.03208
4 796.0 \$82.8 0.0108	6.70 2 1.28788 9 0.90040 14 1.02374 19 1.01593 26 1.02166 32 0.99717 39 0.71636 3	35 0.72521
<b>对抗,基础是一个对象,一个多点的人物的第三人称单数,可能为一个表现的一个人的人</b>	6./1 1 1.38218 10 0.98519 15 1.01280 20 0.99925 27 1.02218 33 0.98936 40 0.73928 4	
6 803.4 3H2.4 0.0108 6	6.70	Sa mar
HIND TUNNEL TEST CONDITION	S 0 7.478 PT 17,998 PS 7.424 R/L 5.4 MACH .1,200 TFMP	102.2
MODEL ATTITUDE	ETERS PTC= 795.3   CE 381.5   PTC/PSA= 107.13   PSM(22)/PSA= 0.9822   PTC/PSA= TOTAL TEMPERATURE= 425.	
	요. 요. 그런 그런 사용하다 사용하다 하는 것 같아. 그런 이번 이번 이렇게 되었다. 그런 그런 그런 그는 그는 것이다. 것도 많은 것을 모든 그림을 했다고 있다. 그는 것을 모든 그런 그런 그는 그는 것은 그를 모르는 것을 모든 것을 보는 것을 보는 것을 보는 것을 보는 것을 보는 것을 보는 것을 보는 것을 보는 것	
	<u> 통료하면 살으랑 중인의 중으로 함 보고도 중 통으로 다 웃고요요</u>	

FRAME PSA PTC SMINI11 SKIN[2] SKIN[3] SKIN[4] SKIN[5] MODEL-STING FEEDER-PIPE  1 7.43 380.25 99.7 95.4 99.3 90.7 0.0 348-1 505.9  2 7.45 389.23 99.7 94.5 95.4 101.9 0.0 330.8 485.1  FR PTC IC P47/PTC PORT-22 NO PSM/PSA N	FRAME PSA PIC SPINII SKINIZI SKINIZI SKINIZI SKINIZI NGELESTINO FERDER-PIRE I  1. 7.43 380.25 99.7 99.4 99.3 90.7 0.8 349.1 505.9 3  2. 7.45 389.23 99.7 94.5 95.4 101.0 9.0 330.0 465.1 3  2. 7.45 389.23 99.7 94.5 95.4 101.0 980/PSA NO PSM/PSA		D8 AUGUST 197	/3		MSFC	TRISONIC MI	NO TUNNEL	HUNTSVILLE	, ALAGAMA T PHASE		TEST 575	400 \$
FRAME PSA PTC SWINI1 SKINI22 SKINI22 S	FRANE PSA PTC SPINIL SKIMIZI SKIMIZI SKIMIZI SKIMIZI SKIMIZI MUBEL'SI NO DELIVER AND PSA PO 2.3 99.7 9.4 99.3 99.7 0.0 330.0 348.1 505.9 3 2 7.43 389.25 99.7 94.5 95.4 101.0 0.0 330.0 465.1 3 2 7.43 389.25 99.7 94.5 95.4 101.0 0.0 330.0 465.1 3  FD PTC TC P47/PTC PORT-22 NO PSM/PSA NO					PLI	THE LECHNORD	GY TEST N	nu-anteace.	, , , , , , , , , , , , , , , , , , ,			
FRAME PSA PTC SWINI1 SKINI22 SKINI22 S	FRANE PSA PTC SPINIL SKIMIZI SKIMIZI SKIMIZI SKIMIZI SKIMIZI MUBEL'SI NO DELIVER AND PSA PO 2.3 99.7 9.4 99.3 99.7 0.0 330.0 348.1 505.9 3 2 7.43 389.25 99.7 94.5 95.4 101.0 0.0 330.0 465.1 3 2 7.43 389.25 99.7 94.5 95.4 101.0 0.0 330.0 465.1 3  FD PTC TC P47/PTC PORT-22 NO PSM/PSA NO					_	ر معمور حدود داد و دو مواد		DE DATA	EROCES FAH	RENNETT		
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FR PIC 1C P47/PIC PORT-22 NO PSM/PSA NO PSM/	FR PIC IC P47/PTC PORT-22 NO PSM/PSA NO PSM/							05.4	101.9	0.0	330 - 8	485.1	36
3 379.7 302.8 9.0107 6.88 3 0.95505 8 0.9974 13 0.9221 19 1.01803 26 1.02115 32 0.99774 39 0.56390 38 0 4 382.9 304.1 0.0109 6.68 2 1.28905 9 0.98526 14 1.02271 19 1.01803 26 1.02115 32 0.99774 39 0.56390 38 0 5 381.8 365.4 0.0107 6.68 1 1.37697 10 0.98005 15 1.01075 20 0.99462 27 1.02167 33 0.98786 40 0.58418 43 0 6 383.9 365.9 0.0107 6.68 21 0.97745 28 1.02947    HIND TUNNEL LEST COMMITTIONS 0 7.475 PT 17.998 P5 7.436 R/L 5.4 MACH 1.109 TEMP 103 MODEL ATTITUDE ALPHA 0.00 BETA 0.03 MOLL 0.0 MACH 1.109 TEMP 103 ALPHA 0.00 BETA 0.03 MOLL 0.0 SMI221/PSA* 0.8984 MOREAGE MODEL MOZZLE PARAMETERS. PTC 380.5 TC 363.1 PTC/PSA* 51.17 PSMI221/PSA* 0.8984 MEATER TOTAL TEMPERATURES 425. MEATER TOTAL TEMPERATURES 425.	3 379.7 362.8 0.0107 6.68 3 0.95569 8 0.99774 13 1.9229 18 1.01803 26 1.02115 32 0.99774 39 0.56390 38 0 4 382.9 364.1 0.0106 6.68 2 1.28905 9 0.98566 14 1.02271 19 1.01803 26 1.02115 32 0.99774 39 0.56390 38 0 5 381.8 365.4 0.0107 6.68 1 1.37697 10 0.98005 15 1.01075 20 0.99462 27 1.02167 33 0.98786 40 0.58418 43 0 6 383.9 365.9 0.0107 6.68 21 0.98005 15 1.01075 20 0.99462 27 1.02167 33 0.98786 40 0.58418 43 0  HIND TUNNEL IEST COMPUTIONS 0 7.475. PT 17.998 PS 7.436 R/L 5.4 MACH 1.199 IERP 102  MODEL ATTRUEF ANALYTICS ALPHA 0.00 BETA 0.03 ROLL 0.0 NOTE AND AVERAGE MODEL/MOZZLE SARAMETERS PIC= 380.5 TC= 353.1 PTC/PSA* 51.17 PSM(22)/PSA* 0.8984  MEATER TOTAL PRESSURER 425. MEATER TOTAL TEMPERATURES 425.  MEATER TOTAL PRESSURER 425. MEATER TOTAL TEMPERATURES 425.		5	7.45	389.73	99.7						·	
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			MODEL ATTITU	L/NOZZL	PARAMETE	ALPHA	0.00 B	ETA 0-00 C= 363.1	PTC/PSA=	0.0 51.17	PSH[22]/P	SA= 0.8984	P: 102.
			MODEL ATTITU	L/NOZZL	PARAMETE	ALPHA	0.00 B	ETA 0-00 C= 363.1	PTC/PSA=	0.0 51.17	PSH[22]/P	SA= 0.8984	P 102.
			MODEL ATTITU	L/NOZZL	PARAMETE	ALPHA	0.00 B	ETA 0-00 C= 363.1	PTC/PSA=	0.0 51.17	PSH[22]/P	SA= 0.8984	P 102.
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			MODEL ATTITU	L/NOZZL	PARAMETE	ALPHA	0.00 B	ETA 0-00 C= 363.1	PTC/PSA=	0.0 51.17	PSM(22)/P PERATURE® 42	SA= 0.8984 5.	7 102.
			MODEL ATTITU	L/NOZZL	PARAMETE	ALPHA	0.00 B	ETA 0-00 C= 363.1	PTC/PSA=	0.0 51.17	PSM(22)/P PERATURE® 42	SA= 0.8984 5.	102.
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	OR AUGUST	1973		MSFC PLU	TRISONIC WIN	O TUNNEL Y TESTNO	MUNTSVILLE. ON-QUIESCENI	PHASE		TEST 575	RUN 164/1
(* - 114) 1 - 144 - 144 (* 144)	FRAME	PSA	PTC	SKINETI	SK1N[21	SHIN[3]	RE DATADE SKINI41	GREES FAHRE SKINI51 MC	DEL-STING F	EDER-PIPE	<u>TCH</u>
		7.42	419.23	R1.5	84.1	, <u>95.8</u>	88,9	0.0	273.5	551.4	328.6
	<u> </u>	7.40	416.59	81.1	84.5	. 86.3	89.7	0.0	270.1	530.6	336.0
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	MODEL ATTI	TUDE		ALPHA	496 PT 1 0,00 BET			R/L 5.5	MACH 1	.202 TEMP	98.3
	AVERAGE MA									4 444	
	HEATER PAR	DFL/NOZZLE Ameters	PARAMETERS	HEATER	16.8 TC= TOTAL PRESSU	332.6	PTC/PSA=	56.25	PSM(22)/PSA: PATURE: 420.	9765	· · <del></del>
	HEATER PAR	DFL/NOZZLE AMETERS	PANAMETENS	. HEATER	16.8 TC= TOTAL PRESSU	332.6	PTC/PSA=	56.25		9765	
	HEATER PAR	DFL/NOZZLE AMETERS	MANATEREN	. HEATER	16.8 TC= TOTAL PRESSU	332.6	PTC/PSA=	56.25		= 1,9765	
	HEATER PAR	DFL/NOZZLE	MANA-EI END	HEATER	16.8 TC= TOTAL PRESSU	332.6	PTC/PSA=	56.25		= 1,9765	
	HEATER PAR	DFL/NOZZLE		HEATER	16.8 TC= TOTAL PRESSU	332.6	PTC/PSA=	56.25		= 0,9765	
	HEATER PAR	DELZNOZZLE		HEATER	16.8 TC= TOTAL PRESSU	332.6	PTC/PSA=	56.25		= 0,9765	
	HEATER PAR	DELZNOZZLE		HEATER	16.8 TC= TOTAL PRESSU	332.6	PTC/PSA=	56.25		= 0,9765	
	HEATER PAR	AMETERS.		HEATER	16.8 TC= TOTAL PRESSU	332.6	PTC/PSA=	56.25		= 0,9765	
	HEATER PAR	DELZNOZZLE AMETERS.		HEATER	16.8 TC= TOTAL PRESSU	332.6	PTC/PSA=	56.25		= 0,9765	
	HEATER PAR	ANETER S.C.		HEATER	16.8 TC= TOTAL PRESSU	332.6	PTC/PSA=	56.25		= 0,9765	
	HEATER PAR	METERS:		HEATER .	16.8 TC= TOTAL PRESSU	332.6	PTC/PSA=	56.25		= 1,9765	

	14 AUGU	81 1	973			_ <i>i</i>		PLU	PE TE	CHYOLO	134 T	EST. N	0 - UL	IESCE!	T F-	\$5	<del></del>						
	144 A																					· —-	
<del></del>	FRAME		PSA	1	PTO	:	SKI	"[1]	S×!	1121	TE: 5K	MPERATU	RE DA	1740 10[4]	EGREE Sal	S FAH	4006F	-5 <b>T</b> IN	G FEE	EP-P	IP=	7	CĤ.
-	1	:	5.1	ι <i>7</i>	410.	20 _		52.0		72.4		82,4		85.0	· 3	0.0		369.	a	51	4.6	3	63.7
	2		j	[ 5	406	. <b>51</b>		52.0		72.4		63.2		64.1	,	3.5		366.	3	50	5, 3	3	58.9
	3		5,		408.	62		52.9		73.7		91.5		67,1		6.0		358.	5	49	0.4	3	72.0
	4		5.1		4n7.	57		63.3		75,4		83.2		88.n	4.7	0.0		354.	6	48	9.4	3	74.6
	5		5,:	18	410	20		63.7		75.n		82.4		88.9	<u> </u>	8.0		350,	3	48	1.5	3	74.6
	6		5.1	L7	. 412.	30		54.6	<u>.</u>	74.3		84.1		88.4	<del> </del>	0.0	<del></del>	346.	8	47	5,1	3	76.7
							1								: 	<u> </u>			· .				
									<del> </del>			· · · · · · · · · · · · · · · · · · ·	. <del></del>	<u> </u>					· 		· ·		
	FR PT	C	TÇ F	47/PI	C PO	RT-22	ND I	PSM/PS	A NO	PS4/P	SA NO	PSM/PS	A NO	PSH/PS	A NO	25M/P	54 NO	PSM/	PSA N	PSM.	/PSA	40 PS	M/PSA
	1 409	.7 3	64.1	0.811	1	4,96	· <u>5</u> (	8.8824	6 6	g.909:	34 11	0.9840	0 16	0.9280	1 23	ე.965	33 29	0.94	294 34	8.9	8773	35 g.	97131
	2 404	.9 3	64,5	0.011	1	4,98	4 (	0.8033	3 7	0.960	11 12	0.9526	4 17	0.9295	8 24	1.019	84 30	1.01	312 4	0.6	4505	36 1.	13257
	3 407	. 0 3	72.0	0.010	9	4,97		' ',				0.9698			1.40								
	4 407	р 3	75.4	0.011	.0	4.97	2	1.3520	7 9	1.006	42 14	0.9593	6 19	0.9892	23 26	0.926	51 32	1.02	357 3	9 0,6	3310	38 1.	07135
	5 408	.6 3	74.6	0.011	.0	4.95	1	1.3961	1 10	6.993	70 15	0.9519	0 20	0.9825	1 27	0,943	68 33	1.02	282 4	0.6	4430	43 0.	63833
	6 411					4.97			· .				21	1.019	4 28	0,942	94	- 53; <del>- 14</del>		<u> </u>			
										. i.									· · ·		<u> </u>	<u>.                                    </u>	
	WIND TU	NNEL	TES	r CONI	1110	vs	0	7.	751	PŢ	10.0	11 PS		.181		5,	3 H	ACH	1.4	62	TEMP	192,	7
977	HODEL A	TTIT	UDE.		DADA	ETERS	. A	LPHA TC= 4	0.1	T (	eta C= 3	0.00 72.0	ROL	PSAR.	0. <b>8</b> 78,	.77	P\$	1221/	PSA=	0,958	5	·	
	HEATER	PARA	HETEI	·s	• • • •		141	EATER	TOTAL	PRES	SURE	475.	•	EATER	TOTAL	. TEMP	ERATO	REP 4	25,				
•		100						1.7'r				, e <sup>r</sup>											
						100		4. 7			•				* 14 A 1							·	
		Fig.									1.5	1 5	1 1			1 1 1 3. 1.3							
1	<del></del>	<del>-4</del>			<del>-1</del>	NO.	<del>, 11, 1</del>	<del>i i i i i i i</del> Lekij – si	e e			· · · · · · · · · · · · · · · · · · ·	1				: 1	11				:	
	<del></del>	-11	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	<del>-      </del>			<del>:</del>			<del>1</del>				- <del></del>			100			-			



4 762.8 389.3 0.0109

5 761.6 388.4 0.0110

6 768,1 389,7 0.0110

4,96

		270	SKINI 1 1	SKINIZI	1 7 1, 4	SKIN(4)	SKIN(5) MOD	EL-STING FE	EDER-PIPE	TCH
FRAME					eg.7	95.8	0.0	362.8	511.5	382.4
					49.3	95.A	0.0	376,3	497,2	385.4
		그렇게 얼마를 받는다.		11 21 12		96.2	0.0	371.5	486.4	388.4
3					4.5			365,4	474.7	388.4
	5.21							361.5	465.6	388.4
5								357,6	458.2	388,9
6	5,20	769,15								
	i sa ka				L NO CONTOCA	NO DOM/PO	NO PSH/PSA	NO PSM/PSA	NO PSM/PSA	NO PSH/PS/
FR PTC	TC P47/	TC PORT-2	2 NO PSM/PSA	NO PSHIPS	A NU FSF/FSA	NO 13171 31		20 0 04222	14 0 08785	35 0.297363
1 757.6	382.8 0.0	10 4,97	5 0.88193	6 0.9080	3 11 0.97885	16 0.9378	23 0.46344	29 8,34232	34 04/0/03	
2 757.0	385.4 0.01	109 4.96	4 0.8014	7 0.9579	7 12 0.95350	17 0.9311	24 1,01389	38 1,00428	41 0.77905	36 1,12944
			3 1.0288(	8 1,0124	0 13 0,96170	18 0,96090	25 0.94083	31 1.03253	42 0.78725	37 1.06607
	6 FR PTC 1 757.6 2 757.0	1 5.17 2 5.18 3 5.18 4 5.21 5 5.18 6 5.20 FR PTC TC P47/5 1 757.6 382.8 0.00 2 757.0 385.4 0.00	1 5.17 756.51  2 5.19 757.94  3 5.18 757.57  4 5.21 761.25  5 5.18 762.30  6 5.20 769.15  FR PTC TC P47/PTC POHT-2  1 757.6 382.8 0.0110 4.97  2 757.0 385.4 0.0109 4.96	1 5.17 756.51 72.4  2 5.16 757.94 72.6  3 5.18 757.57 73.7  4 5.21 761.25 74.6  5 5.18 762.30 74.6  6 5.20 769.15 79.0  FR PYC TC P47/PYC PONT-22 NO PSM/PS/ 1 757.6 382.8 0.0110 4.97 5 0.88193 2 757.0 385.4 0.0109 4.96 4 0.80142	1 5.17 756.51 72.4 61.5  2 5.18 757.04 72.6 60.6  3 5.18 757.57 73.7 61.9  4 5.21 761.25 74.6 82.8  5 5.18 762.30 74.6 61.5  6 5.20 769.15 75.0 83.2  FR PYC TC P47/PYC POHY-22 NO PSM/PSA NO PSH/PS  1 757.6 382.8 0.0110 4.97 5 0.88193 6 0.9080  2 757.0 385.4 0.8109 4.96 4 0.80142 7 0.9575	FRAME #SA FIC SKIN[1] SKIN[2] SKIN[3]  1	FRAME #SA PTC SKIN[1] SKIN[2] SKIN[3] SKIN[4]  1 5.17 756.51 72.4 61.5 69.7 95.8  2 5.18 757.04 72.6 60.6 69.3 95.8  3 5.18 757.57 73.7 61.9 69.3 96.2  4 5.21 761.25 74.6 82.8 89.7 96.7  5 5.18 762.30 74.6 61.5 89.3 96.7  6 5.20 769.15 75.0 83.2 90.2 97.5  FR PTC TC P47/PTC POHT-22 NO PSM/PSA NO	FRAME #SA PIC SKIN[1] SKIN[2] SKIN[3] SKIN[4] SKIN[5] MOD  1 5.17 756.51 72.4 61.5 69.7 95.8 0.0  2 5.18 757.94 72.6 60.6 59.3 95.6 0.9  3 5.18 757.57 73.7 61.9 69.3 96.2 0.0  4 5.21 761.25 74.6 82.8 89.7 96.7 0.0  5 5.18 762.30 74.6 61.5 89.3 96.7 0.0  6 5.20 769.15 75.0 83.2 90.2 97.5 0.0  FR PIC TC P47/PIC POHT-22 NO PSM/PSA	FRAME #SA FIC SKIN[1] SKIN[2] SKIN[3] SKIN[4] SKIN[5] MODEL-STING FE  1 5.17 756.51 72.4 61.5 69.7 25.8 0.0 362.8  2 5.18 757.04 72.8 60.6 59.3 95.8 0.0 376.3  3 5.18 757.57 73.7 61.9 59.3 96.2 0.0 371.5  4 5.21 761.25 74.6 82.8 89.7 96.7 0.0 365.4  5 5.18 762.30 74.6 61.5 89.3 96.7 0.0 361.5  6 5.20 769.15 75.0 83.2 90.2 97.5 0.0 357.6  FR PTC TC P47/PTC POHT-22 NO PSM/PSA NO PSM/P	FRAME #SA FIC SKIN[1] SKIN[2] SKIN[3] SKIN[5] MODEL-STING FEEDER-PIPE  1 5.17 756.51 72.4 61.5 69.7 95.8 0.0 362.8 511.5  2 5.18 757.44 72.5 80.6 59.4 95.8 0.0 376.3 497.2  3 5.18 757.57 73.7 61.9 59.3 96.2 0.0 371.5 486.4  4 5.21 761.25 74.6 82.8 89.7 96.7 0.0 365.4 474.7  5 5.18 762.30 74.6 61.5 89.3 96.7 0.0 361.5 465.6  6 5.20 769.15 75.0 83.2 90.2 97.5 0.0 357.6 458.2  FR PTC TC P47/PTC P0HT-22 NO PSM/PSA NO P

MACH 1.461 TEMP 102.8 5,188 18.013 PT WIND TUNNEL TEST CONDITIONS..... POLL 0.0 PTC/PSA= 146.64 NODEL ATTITUDE.... ALPHA 0.00 AVERAGE MODEL/NOZZLE PARAMETERS.. PTC= 760.8 0.00 BETA TC/PSA= 146.64 PSM(22)/PSA= 0.9585 HEATER TOTAL TEMPERATURE: 435. 0.00 TC= 387.4 HEATER PARAMETERS..... 875.

4.99 21.35757 9 1.00121 14 0.96841 19 0.97810 26 0.92815 32 1.02060 39 0.76862 38 1.06607

4.97 1 1.43510 10 0.99972 15 0.94605 20 0.99078 27 0.95127 33 1.02656 40 0.78129 43 0.77309

21 1.02134 28 8.94008

	de rigi		ر ماران المارا				TEMPERATUR	E DATADI	EGREES FAHREN	EIT	DER-PIPE	TCH
	FRAME		PSA	PTC	SKIN[1]	SKINI21	SKIN[3]	SKIN[4]	SKINISI MUUI	:Lesi Ind vec		
		\$1.	5.00	1159.07	7ē.9	85.4	94.1	96.2	0.0	361.1	491.6	386.4
100		1 5	7.70				93.6	96.7	0.0	357.6	476.4	391.5
	2	<u> </u>	5,04	1143,08	7c.9	8211			0.0	353.7	465.2	393,2
	3_		5,69	1151.25	79,8	86.7	94,5	97.1	9.0		455 4	393.2
100	der ed		E 48	1142,83	79,8	86.7	93,0	96.7	0.0	349.8	455.6	
		<del></del>			0.0	85.8	93.2	97.5	0.0	345.9	446.9	391.9
	5	150	5,08	1169.67	93.2			98.8	0.0	342.9	441.3	392.3
tion district. To the second	6		5.08	1168,09	79,8	86.3	93.2	40.E				

TO P47/PTC PORT-22 NO PSM/PSA NO PSM/PSA NO PSM/PSA NO PSM/PSA NO PSM/PSA NO PSM/PSA NO PSM/PSA NO PSM/PSA PTC 4,94 5 0.89527 6 0.89070 11 0.98054 16 0.93866 23 0.94932 29 0.94323 34 0.97140 35 0.97597 1 1157.6 388.4 0.0107 4 0.78336 7 0.97216 12 0.95922 17 0.93029 24 0.98358 30 0.97825 41 0.87472 36 1.16477 2 1143.9 391.6 0.6109 4,96 3 0.98815 8 0,99043 13 0,94856 18 0,95465 25 0,94476 31 1.01251 42 0.89147 37 1.06732 3 1150.7 394.1 0.0108 2 1.32844 9 1.01708 14 0.95770 19 0.95770 26 0.92725 32 1.04448 39 0.86634 38 1.05971 4 1143.9 393.6 0.0109 1 1,38173 10 0,99881 15 0,99195 20 0.97749 27 0,93790 33 1.81479 40 0.88842 43 0.87243 5 1164.9 392.3 0.0108 4.90 21 1.00185 28 0.94780 4.94 6 1167.0 392.3 0.0108

1.476 TEMP 102.7 5.3 MACH 5.081 7.742 PT WIND TUNNEL TEST CONDITIONS..... 0 0.0 ROLL 0.00 HODEL ATTITUME..... ALPHA 0.00 BETA PSM[22]/PSA= 0.9714 PTC/PSA# 227.26 TC= 392.0 AVERAGE HODEL/HOZZLE PARAMETERS .. PTC= 1154,7 HEATER TOTAL TEMPERATURES 440. HEATER PARAMETERS...... HEATER TOTAL PRESSURE\* 1310.



TO P47/PTC PORT-22 NO PSM/PSA NO PSM/PSA NO PSM/PSA NO PSM/PSA NO PSM/PSA NO PSM/PSA NO PSM/PSA NO PSM/PSA FR PTC 4,92 5 0,88385 6 0,86773 11 0,96909 16 0,95604 23 0,93914 29 0,95757 34 0,98752 35 0,98061 1 1566.0 399.3 0.0106 4 0.79708 7 0.95527 12 0.96371 17 0.93761 24 0.98061 38 0.97830 41 0.95296 36 1.14417 4.93 2 1551.8 401.9 0.0106 3 0.97293 6 0.98906 13 0.93377 18 0.96218 25 0.94145 31 1.00211 42 0.97139 37 1.06508 4.94 3 1568.6 403.2 0.0106 2 1.31541 9 1.01593 14 0.93837 19 0.94605 26 0.93377 32 1.04972 39 0.94836 38 1.05202 4.95 4 1559.1 402.3 0.0107 1 1.38068 10 1.00288 15 0.98982 20 0.97984 27 0.94068 33 1.02668 40 0.97830 43 8.95527 4.93 5 1571.3 402.3 0.0107 21 0.99136 28 0.93530 4.93 6 1599.7 401.4 0.0105

MACH 1,482 TEMP 103.7 5.3 18,027 5.637 R/L PT PS 7.746 WIND TUNNEL TEST CONDITIONS..... Q BETA 0.00 ROLL 0.0 MOBEL ATTITUDE..... ALPHA 0.00 PSH1221/PSA= 0.9793 PTC/PSA= 311.57 TC= 401.7 AVERAGE HODEL/NOZZLE PARAMETERS. . PTC= 1569.4 HEATER TOTAL TEMPERATURES: 450. HEATER PARAMETERS..... HEATER TOTAL PRESSURE 1750.

- 1	1.	AUGUST	19/3		<u> </u>	P	LUME TI	ECHNOL DO	ID TUNNEL BY TESTNO	HUNTSVILLE H-QUIESCEN	T PHASE		<del></del>			
1,41	, 1945 - <del>    1</del>								TEMPERATUR	E DATAD	EGREES	FAHREN	HEIT EL-STING	reene	2-P1P6	TCH_
		RAME	PSA	<b>P</b> 1	TC	SKINIII	SK.	1817	SKIN[3]	SKIN[4]					496.8	408.4
200		1	4,98	163	3.36	64,6		77.6	<u>€5.0</u>	89.3		0.0	352.4			410.5
ja.		2	5.01	162	1.25	65.0	<u> </u>	78.0	<u>85,4</u>	89.7		1.0	349.8		479.5	
		3	4,99	184	2.30	65.5		78.0	85.0	90.2		1.9	348,1		466.5	411.0
		4	5.00	185	7.64	66.3	<u> </u>	78.5	85.8	91,5		3.0	345.9		457.4	410.1
		5	5.00	185	4.41	66,8	<u> </u>	79.3	85.8	92.8		3.0	343.3	<u> </u>	450,4	410.5
		6	4.99	184	2.30	67.6		81.1	67.1	94.9		0.0	341.6	<u> </u>	446.5	409,7
141	1.				· · · · ·									<u></u>		
	18.2										· · · · · · · · · · · · · · · · · · ·			<del></del>		
		R PTC	70.04	7/PTC	PART-2	ND PSH	PSA NO	PSH/PS	A NC PSM/PS	A NO PSM/PS	A NO P	SH/PSA	NO PSM/P	SA NO	PSH/PSA	NO PSH/PSA
	100		1. 1.	1.0	. O.	E 1 67	244 4	n sags	1 11 0.9580	3 16 0.9680	9 23 0	93250	29 0.956	03 34	1,00679	35 0.98589
<u> </u>	1.0		9 405.8 0			3 4.67	444		8 12 6.9704	2 17 0 9441	: 10 24 0	.98512	30 8.980	48 41	1.00292	36 1.1460B
		4	0 411.0 0		4.97	4 0.8	100	9999	0 13 0.9371	4 48 n. 969/	68 25 n	-94797	31 1.000	147 42	1.02304	37 1,06947
	1.7	3 1845.	<u>5 411,8 0</u>	0184	4,98	3 0.99	200 6	0,7744	13 11.73/1	- 10 01704	<u> </u>	V V 1				
				777		+ <u>+</u> -			0456	E 40 A 0516	n7 26 N	.93946	32 1-051	167 39	9.99982	38 1.05167
			1 410.5 0		4.97	2 1.3	794 9	1.0222	6 14 0,9456	5 19 0.9510	07 26 0	.93946	32 1.051	167 39	9.99982	38 1.05167
		4 1858.		.0104	4,97	2 1.3	794 9 9449 1	1.0222	6 14 0.9456 9 15 0.9789	5 19 0.9510 3 20 0.9858	07 26 0 89 27 0	.93946 .94488	32 1.051	167 39	9.99982	38 1.05167
		4 1858. 5 1860.	1 410.5 6	.0104		1.39	2794 S	1.0222	6 14 0,9456	5 19 0.9510	07 26 0 89 27 0	.93946 .94488	32 1.051	167 39	9.99982	38 1.05167
		4 1858. 5 1860.	1 410.5 0 7 411.0 0	.0104	4,90	1.39	2794 S	1.0222	6 14 0,9456	5 19 0.9510 3 20 0.9858	07 26 0 89 27 0	.93946 .94488 .93172	32 1.051 33 1.037	167 39 774 40	9.99982 1.02845	38 1.05167 43 1.00524
	1	4 1858. 5 1860. 6 1846.	1 410.5 0 7 411.0 9 8 410.1 0	.0104 .0105 .0105	4,95 4,98	1 1.35	7,736	1.0222 1.0036	6 14 0.9456 9 15 0.9789 18.013 PS	5 19 0.9510 3 20 0.9850 21 0.9820	07 26 0 89 27 0 82 28 0 R/L	.93946 .94488 ,93172 5.3	32 1.051 33 1.037	1.487	9.99982 1.02845 TEMP	38 1.05167
		4 1858. 5 1860. 6 1846. IND TUN	1 410.5 0 7 411.0 0 0 410.1 0 NEL TEST	.0104 .0105 .0105	4,90 4,98	1 1.35	7,736	9 1.0222 1 1.0036 PT	18.013 PS	5 19 0.9510 3 20 0.9850 21 0.9820 4.998	07 26 0 89 27 0 82 28 0 R/L	.93946 .94488 .93172 5.3	32 1.051 33 1.037 MACH	1.487	9.99982 1.02845 TEMP	38 1.05167 43 1.00524
		4 1858. 5 1860. 6 1846. IND TUN	1 410.5 0 7 411.0 0 0 410.1 0 NEL TEST	.0104 .0105 .0105	4,90 4,98	1 1.35	7,736	9 1.0222 1 1.0036 PT	6 14 0.9456 9 15 0.9789 18.013 PS	5 19 0.9510 3 20 0.9850 21 0.9820 4.998	07 26 0 89 27 0 82 28 0 R/L	.93946 .94488 .93172 5.3	32 1.051 33 1.037	1.487	9.99982 1.02845 TEMP	38 1.05167 43 1.00524
		4 1858. 5 1860. 6 1846. IND TUN	1 410.5 0 7 411.0 0 0 410.1 0 NEL TEST	.0104 .0105 .0105	4,90 4,98	1 1.35	7,736	9 1.0222 1 1.0036 PT	18.013 PS	5 19 0.9510 3 20 0.9850 21 0.9820 4.998	07 26 0 89 27 0 82 28 0 R/L	.93946 .94488 .93172 5.3	32 1.051 33 1.037 MACH	1.487	9.99982 1.02845 TEMP	38 1.05167 43 1.00524
		4 1858. 5 1860. 6 1846. IND TUN	1 410.5 0 7 411.0 0 0 410.1 0 NEL TEST	.0104 .0105 .0105	4,90 4,98	1 1.35	7,736	9 1.0222 1 1.0036 PT	18.013 PS	5 19 0.9510 3 20 0.9850 21 0.9820 4.998	07 26 0 89 27 0 82 28 0 R/L	.93946 .94488 .93172 5.3	32 1.051 33 1.037 MACH	1.487	9.99982 1.02845 TEMP	38 1.05167 43 1.00524
		4 1858. 5 1860. 6 1846. IND TUN	1 410.5 0 7 411.0 0 0 410.1 0 NEL TEST	.0104 .0105 .0105	4,90 4,98	1 1.35	7,736	9 1.0222 1 1.0036 PT	18.013 PS	5 19 0.9510 3 20 0.9850 21 0.9820 4.998	07 26 0 89 27 0 82 28 0 R/L	.93946 .94488 .93172 5.3	32 1.051 33 1.037 MACH	1.487	9.99982 1.02845 TEMP	38 1.05167 43 1.00524
		4 1858. 5 1860. 6 1846. IND TUN	1 410.5 0 7 411.0 0 0 410.1 0 NEL TEST	.0104 .0105 .0105	4,90 4,98	1 1.35	7,736	9 1.0222 1 1.0036 PT	18.013 PS	5 19 0.9510 3 20 0.9850 21 0.9820 4.998	07 26 0 89 27 0 82 28 0 R/L	.93946 .94488 .93172 5.3	32 1.051 33 1.037 MACH	1.487	9.99982 1.02845 TEMP	38 1.05167 43 1.00524
		4 1858. 5 1860. 6 1846. IND TUN	1 410.5 0 7 411.0 0 0 410.1 0 NEL TEST	.0104 .0105 .0105	4,90 4,98	1 1.35	7,736	9 1.0222 1 1.0036 PT	18.013 PS	5 19 0.9510 3 20 0.9850 21 0.9820 4.998	07 26 0 89 27 0 82 28 0 R/L	.93946 .94488 .93172 5.3	32 1.051 33 1.037 MACH	1.487	9.99982 1.02845 TEMP	38 1.05167 43 1.00524
		4 1858. 5 1860. 6 1846. IND TUN	1 410.5 0 7 411.0 0 0 410.1 0 NEL TEST	.0104 .0105 .0105	4,90 4,98	1 1.35	7,736	9 1.0222 1 1.0036 PT	18.013 PS	5 19 0.9510 3 20 0.9850 21 0.9820 4.998	07 26 0 89 27 0 82 28 0 R/L	.93946 .94488 .93172 5.3	32 1.051 33 1.037 MACH	1.487	9.99982 1.02845 TEMP	38 1.05167 43 1.00524
		4 1858. 5 1860. 6 1846. IND TUN	1 410.5 0 7 411.0 0 0 410.1 0 NEL TEST	.0104 .0105 .0105	4,90 4,98	1 1.35	7,736	9 1.0222 1 1.0036 PT	18.013 PS	5 19 0.9510 3 20 0.9850 21 0.9820 4.998	07 26 0 89 27 0 82 28 0 R/L	.93946 .94488 .93172 5.3	32 1.051 33 1.037 MACH	1.487	9.99982 1.02845 TEMP	38 1.05167 43 1.00524

							TEMPERATO	PE DATAT	EGHEES FAHAF	NHETT		TCH
_ <del></del>	FRA		PSI	et <u>c</u>	SKIN[1]	SKINES	5K[* [3]	SKINIAL	5KIN[5] MO	DEC-SILING Y-S		409.2
- ج <u>ر شم</u> ت - آپ		*** · = ·		1795.46	89.7	94.9	154.9	105.3	2.0	389.7	3 4 . D	
1 1		<u> </u>	5.5		69.7	93.5	103.6	105.3	3.0	382.4	450.0	411.4
		2	5.12	1610.72			102.7	104.9	3.0	377.2	473.5	415.3
		3	5.10	1818.62	89.7	93.6			0.0	370.7	463.9	414.8
		4	5.00	1825.99	89.3	93.2		185.8		365.9	457.4	414.9
		5	5.12	1837.04	69,7	93,2	101.9	and the second second	0.0			416.6
<del></del>	100			1863.88	89.3	93,2	101.9	106.7	0.0	362.0	453.4	410.0
1.41	201 a 100	<u> </u>	793							and the second second		

FR PTC 1C P47/PTC PORT-22 NO PSM/PSA NO PSM/

e vormalismes ocus pare vorsing consultation is all file.

्यास्य । अस्ति वृत्तिकृत्तिः संवत्तावन् अन्य अवस्थाः । सृत्तिवत्ताः अस्ति स्वतः व्यक्तिः । स्वतः वर्षाः स्वतः

	08	LUGUS	<u>7 1</u>	973							<u> +Sf</u>	C T	2150	) N I C	.010	ND T	UNNE	L P	-BUI	VILLE. ESCENT	PHA	SE	<u> </u>					<u> </u>	75		155/0
		1									1	LOPE	= 12	- CHA	MILO.									<b>_</b>							
	<del>:</del>	,- <b></b>																	DAT	ADE	CREF	S F	AHRE	NHEI	T						
<u>-</u>	FR	AME	-	45,	·	·:	PI	C		Sk I	11	;		NE		SK	14(3	1	SKIN	[4]	SK	NI5	1 MO	DEL.	STI	NG FI	EEDE	R-PI	PĒ		†2=
<del>-</del>		1	1. 1	7.	46		391	. 85			95.	4		92.	, 3		94,	1	9	4.1		0.	0		437	. 8		704	.0		396.E
		2	<u> </u>	7	40	<del></del>	391	.32			94.	9	<del></del>	91	9		93.	6	9	4.1		٥.	,û		430	.5		óö9	1.1		459.2
	in the second	3			47	<u>:</u>	391	L.85		<del></del>	95.	4		92	. 8		94	.1	9	5.4		0.	0		424	• G		577	7.6		416.6
<u>.</u>	<u> </u>	4			46	-		5.01			95.	4		93	.2		94.	.1	9	6.7		0.	0		416	•2		564	1.6		421.5
·	· · · · · · · · · · · · · · · · · · ·	<b>7</b>			46	·-	T :	2.36			95.			91	.5		93.	.2	9	7.1		ō.	Ó		419	.2		657	2.0		426.3
<u>.                                    </u>		6			.46			27			95.		-	94	.1		94	,5	9	9.3		0.	0		403	.6		64:	1.6		430.5
· 	<u>.:.</u>		·.	. <b>.</b> .				3861						· :															· ·		
<u> </u>				: '			•								·											<del></del>					
								_											NA D	ICH (BC	A NO	DCI	17 <b>0</b> 08	. MO	PSH	/PSA	NO	PSM	/PSA	NO I	PSH/PS
÷.	FR	PTC	;	TC	P47	/PT	; (	PORT	-22	ND	PSM	/PSA	NO.	PS	M/PS	A NO	, PS	M/PSA	NU F	SMIFS	A (1)U	-3	10704	20	4 0	7981	34	0.9	1181	35	1.1497
<del></del>	1	390	.3 3	96.	4 0	010	7	6,	72	5	0.9	0300	6	ı.	0066	7 1:	10.	99008	16 1	1.0077	1 23	0.	72321	. 29	1.0	3001			7476	36	1.1497
<del></del>	2	390	.3 4	106,	4 0 .	010	5	6.	71	4	0.7	9829	7	D.	9900	8 1	2 0.	96987	17 1	6465	9 24	1.1	1082	2 30	1.0	0512	: 41	0 + 2.	/1/0	30	9885
	3	389	.7	17,	0 0	010	7	6.	72	3	0.9	5743	6	1.	8108	12 1	5 0 +	95794	18 1	0128	9 25	ij	94239	9 31	0.9	8127	42	0.>	7/40	3/	1.0336
·	4	392	4	121,	8 Q.	010	7	6,	73	2	1.2	8866	9	0.	9828	3 1	11,	01963	19 1	.0128	9 26	1.	0217	32	0.9	9216	; 39	0.5	7020	38	0,9133
	5	400	.8	125.	7 0	010	5	6,	73	1	1.3	6279	10	D •	9833	34 1	5 1.	01237	20 (	9880	1 27	1.	02170	0 33	0.9	8542	2 40	0.5	8472	43	0.5779
· 		397				_		6,	72					<del></del>				<u>·</u>	21	9735	0 28	1.	0274	1	-						
<u> </u>	<del></del>		<u> </u>													· ·····		<del></del>					<u>., </u>								
· · · · · ·		D TU	NA:F:	75	<b>CT</b>	מעמי	! T !	ONS			Ω	7.4	174	P	Ť	18.	011	PS	7	,462	R/L	•	5,5	-	IACH		1,19	6	TEMP	10	0.1
	MOT	IEI A'	771	tuibë							ALPI	IA .	0.	00	81	ETA C=		9	ROLI PTC	/PSA=	0.0 52	2,74		PSF	1122	1/PS	A= 0	.900	7		
<u>.                                    </u>	HEA	RAGE	MO PAR	MET/	ERS	Let	PAK			• •	HEAT	TER '	TOTA	L F	RES	SURE	E 4	25.	Н	EATER	TOTA	L T	EMPE	RATE	IRE*	525	•				
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manders of the section of their contracts of their contracts

08 AUGUST 1973

•						HE DATAU	EGREES FAHRE	DEL-STING FEE	DER-PIPE	754
FRAME	PSA	PTC	SKINILL	SK14[5]	2k1.[3]	5K1N[4]	2614531 10			
₽ <b>K</b> ₱ CIF	*				156.7	109.7	0.3	397.1	618.2	435,
1	7.40	789.75	111.9	104.0	1:01:			391.5	593.9	441.
	7.49	795.81	111.4	101.4	105.8	109.7	0.0	327.02		
2	7.640	,,,,,,,			195.8	119.6	3.0	386.3	583.1	447.
3	7.39	795.01	111.9	105.3	14310			704 5	570.9	448,
· · · · · · · · · · · · · · · · · · ·		802,38	111.9	100.6	104.0	111.0	0.0	361.5	3,017	
4	7.40	002100				111.9	0.0	377,6	562.3	451.
5	7.40	809.75	111.9	100.6	184.6	221.07		····	553.2	451
	7.40	786,59	111.4	100.1	103.2	112.7	0.0	372.8	223.6	7201

FR	PTC	TC P47/P	TC PORT-22	NO	PSM/PSA	NO PSH/P	SA NI	D PSM/PSA	NO PS	m/PSA	NO PSH/	PSA N	O PSM/	PSA N	D PSH/PS	A NO	1.13646	<b>-</b>
1	787.6	433,1 0.01	09 6.69	5	0.89913	6 1.007	86 1	1 0.98643	16 1.	01152	23 0.93	681	3n 1.01	570 4	1 0.7172	1 36	0,99113	
2	795.C	440.9 0.01	58 6.68	4	ი.76583	7 1.004	72 1	2 0,98068 3 0.95297	17 1	<u>62250</u>	25 0.94	252	31 0.98	598 4	2 0.7266	2 37	1.03086	
 _		446.9 0.01				0 - 000	49 4	4 1-01152	19 1	01309	26 1.02	145	32 0.99	100a a	A 0+1714	1 30	04,7540	
		447.8 0.01		2	1.29014	9 (1.99)	72 1	5 1,0073	20 1	00368	27 1.02	2250	33 0.96	904 4	0 0,735	1 43	0.72505	
	_	450.0 0.01		1	1,36683	10 0.90			21 0	97597	28 1.01	1831						
 6	786.1	450.4 9.01	05 6.65															

7.492	PT 18.011 PS	7.399 R/L	5.5 HACH	1.203 1807	Tadio
WIND TUNNEL TEST CONDITIONS. ALPHA 0.00	BETA 0.00	PTC/PSA# 107.5	1 PSH[22]/	PSA= 0.9043	
	TC= 444.9	HEATER TOTAL	TEMPERATURE= 5	20.	
HEATER PARAMETERS HEATER TOTAL	F46000 12 - 0.10				
·			<del> </del>		

OF AUGUST 19 FRA E 1	73 PSA 7.36	PTC	PLUM	E TECHNOLO	ND TUNNEL !	-QUIESCENT	PHASE			
2		PTC								•
2		PTC #==								
2		PTC			TEPPERATUR	DATADE	GREES FAHREN	HEIT	ERER-PIPE	TCH
	7.36		57 [ 1 [ 1 ]	2K14(S)	SK1%[3]	SKIN(4)	2414(3) 401			
		1119.75	116.1	101.9	185.6	164.0	0.0	379.3	603.4	450.
•	7.37	1118.69	110.1	102.3	105.8	105.3	0 •-0	376.7	586,5	456.
3	7.34	1139.22	110.1	101.9	104.5	106.2	0.0	373.3	570.9	458.
	7.36	1149.22	110.6	102.7	104.9	108.4	0.0	379.7	558.4	460.
4			109.7	101.4	103.6	110.1	G . U	368,1	547,5	461.
5	7,36	1134,48		101.0	103.2	111.4	0.0	365.0	538,8	460.
6	7.37	-1148.59	110.1	101:0	10045	. ••••				
				<del></del>						
•				50. 100	A NO PSM/PSA	NO DEM/PE	A DO PSM/PSA	NO PSM/PSA	NO PSHIPSA	NO PSH/P
FR PTC	10 P47/	PTC PORT-22	2 NO PSM/PSA	NO PSM/PS	A NU PSEZFSA	NU FSM/F				75 4 401
1 1118.7 4	51.3 0.0	107 6,88	5 0.88885	6 1.0065	2 11 0.98551	16 1.0054	7 23 0.94821	29 1.03699	34 0.93140	35 1.123
2 1120.8 45	56 S D D	107 6,87	4 0.76645	7 1.0049	4 12 0,98656	17 1.0417	2 24 1.00337	30 1.02018	41 0.80217	36 0,994
				093	8 13 0,95714	18 1 0317	3 25 n. 945,,6	31 0.99234	42 0.81005	37 1.623
3 1135,5 4	50.2 0.0	107 6,88	3 0,94190	8 6.97/3	18 13 4.45/1-	10 1,001,		72 0 07070	39 n 80532	36 0.914
4 1144.6 4	60.4 0.0	106 6,89	2 1.29229	9 0.9965	i4 14 1.00961	19 1.0149	2 25 1.01000	35 047/723	0, 0,00,00	47 0 944
5 1137.1 4	61.3 0.0	108 6,87	1 1,37162	10 0.9823	35 15 1.00810	20 1.0044	2 27 1.r2701	33 0.99391	49 0.02043	9 43 8.01
6 1148.2 4	56.5 0.0	1107 6.87				21 0.9818	3 28 1.01703			
0 11-015 4				,						
								NACH 1	.207 TEM	99.9
WIND TUNNEL	TEST CO	NDITIONS	u 7.!	503 PT	18.013 PS ETA 0,00	7,363 ROLL	R/L 5.5 8.0			
AVERAGE MOD	<u>uú£</u>	C DADAMETED	C OTC= 11		C= 457.9	DTC/DCA:	154.02	PSH[22]/PS/	1= 1.9339	
- WERNER WOR	<u> </u>	E PANAMEIEN	HEATER			HEATER	TOTAL TEMPER	RATUPER 520	<u> </u>	

OB AUGUST	1973		MSFC TI	RISONIC SI	ND TUNNEL GY TESTNO	HUNTSVILLE	ALABAMA PHASE		TEST 575	RUN 188,
,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			r Cuni	S JECHNOLOG	. ,					
					TEMPERATUS	E DATA-+-DE	GREES FAHRE	#EIT		
FRAME	PSA	PTC	SKINEII	SKINTE	SKIN(3)	SKIN[4]	SKINES) HO	EL-STING FE	EDER-PIPE	TCH
PRAME				95.4	9: .4	96.2	0.6	373.3	599.5	438.
1	7,37	1459.75	101.0	93.4				770.0	575.7	445.
5	7,35	1467.11	100.6	95.4	97.5	98.4	0 • 0	370.2		
3	7.35	1472.90	100.6	96.2	98.0	99.7	U • 0	368.1	557.1	448,
				95.8	97,5	101.9	0.0	364.6	540.1	450.
4	7.36	1487.64	101.0		•			362.1	527.6	450.
5	7,35	1490,80	100,6	94.5	97.1	103.2	0 • 0			
6	7.37	1500.27	100.6	95.8	97.1	105.8	0.0	359.8	518.5	453.
					A NO DOMADO	4 NO DEM/DS	A NO PSH/PSA	NO PSH/PSA	NO PSH/PSA	NO PSM/F
FR PTC	TC P47/	PTC PORT-2	2 NO PSM/PSA	NO PSM/PS	M NU PSH/FS	A NO PONTO			** - O4***	75 1 12/
1 1459.	2 437.8 0.0	0106 6.85	5 0.89035	6 1.0065	1 11 0.9870	6 16 1.0086	1 23 0.94764	5A 1.82064	34 9.34201	02 2125
	3 445.9 0.0	·	4 0.76421	7 1.0049	3 12 0.9870	6 17 1.0422	5 24 1.00388	30 1.02017	41 0.07406	36 0.994
			7 0 04026	9 n 9812	A 13 n.9571	n 18 1.0296	3 25 0.94659	31 0.99126	42 0.86352	37 1.024
3 1471.	3 445.2 0.1	0106 6.86	3 0494239				7 04 5 0444	12 0 97A02	39 n.87563	38 0.92
4 1485.	8 450.8 0.	0105 6,86	2 1,29400	9 0.9933	5 <b>7 14 1.</b> 0070	3.19 1.0129	7 26 1.01649	32 011100	*****	
5 1486.	6 449,5 3.	1116 0.05	1 1.37127	10 0.9844	3 15 1.0065	1 20 1.0044	0 27 1.02911	33 0.99442	40 0.89501	43 D. 004
	*		·	·	<del></del>		8 28 1.0186			
6 1498,	2 453.0 0.	0105 6.87								
									.207 TEMP	99.7
HIND TU	NEL TEST C	ONDITICAS	0 7.	506 PT	18.017 PS	7,359 ROLL	R/L 5.5	<del>-</del>		7777
HODEL AT	TITUDE	C DARAMETER	PTC= 14	78.6 TI	C= 447.2	DYC/PCAZ	200.92	PSH(221/PSA	= 9,9313	·-
AVERAGE HEATER (	ARAMETERS.	TE MANAGES	HEATER	TOTAL PRES	SURE: 1630.	HEATER	TOTAL TEMPE	RATURES SIV.		
						:				
	<del></del>									
1.31		<del> </del>		<u></u>		<del></del>				
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	<del> </del>		<u> </u>							
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	08 AUGUST				PL	UHE TECHN	OLOGY TE	STNO	NUNTSVILLE N-QUIESCEN	T PHASE	<del></del>		<del></del>	575	
							TEN	PERATUR	E DATAD Skin(4)	EGREES	FAHREN	HEIT	FERER-	PIPE	TC
	FRAME	PSA	PT(		SK [N[1]	***	4	92.8	96.2		.D	389.7		09.9	461
<u>.                                    </u>		7.40	1819		92.3.	91. 91.		93.2	98.0		.0	385.8		81.3	466
	2	7,39	1841		92.8 92.8	62.		94.5	101.4		.0	382.8		61.0	47:
		7.41	1842		92.3	91		93.2	103.6		. 0	378.9		544.1	47
		7.40	1868 1876		92.3			93.2	106.2		0	375.9		533.2	47
	<u>. 5</u>	14 - W - 1	1860		92.8	93.		94.1	109.7		. 0	375.0		528.0	47
	6		1000	7 S Y											چنځار بيسان
			) <del></del>												
	FR PTC	IC P47	Vetc e	nRT-22	NO PSM/P	SA NO PSI	I/PSA NO	PSM/PSA	NO PSH/PS	A NO PS	M/PSA	NO PSM/PS	A NO P	SM/PSA N	O PSM
i iller is	1 1819.8			10	10 to 10 to 10 to 10 to 10 to 10 to 10 to 10 to 10 to 10 to 10 to 10 to 10 to 10 to 10 to 10 to 10 to 10 to 10	article for the	100	144.4	16 1.008		10.00		11		Steel .
	2 1840.3	a day		7.07			- 1 14.7 High W		17 1.050	4 4 4		the second of the second	- C	The second secon	
	3 1843.4			7.08	3 0.949	TF178 NAUG	- 16 E	1 14	18 1.022	and the second	, 15, ee	9.3 (j. 26) - L	7.E. 1964 A. C.		Sec. 25.7
	4 1864.0			7.02	2 1.297	02 9 0 - 9	9876 <u>6</u> 14	1.01849	19 1.0 <u>13</u> :	7 26 1.	01901	32 0.9913	2 39 0	.94795	8_0.9
	5 1875.5	473.4 0.	0134	7.09	1 1.396	31 10 0.9	98191 15	1.00700	20 1-004	27 1,	12215	33 0.9928	9 40 0	.96205_4	3 0.9
	6 1859.8	475.6 0.	C104	7.52	ig di Maranda di	)			21 0.979	32 28 <b>1.</b>	11797		n taile Taile		
													-		1 24 1 44 1 5
	NIND TUNN			NS	Office Transfer	.494 P	r 18.n		7.402 POLL	R/L	5.5	MACH	1.203	TEMP	99.4
	MODEL ATT AVERAGE M	ODEL/NDZ7	LE PAPA	METERS.	. ALPHA . PTC= 1	0.00 850.5	BFTA TC= 4	0.00 70.4	PTC/PSA=	250.00		SM[22]/PS		563	
	HEATER PA	FAMETERS.		• • • • • •	. HEATE	TOTAL PI	45 20HG=	2020.	HEAIEN	11.145	Chi Cui				

	OB AUGUST 1	L <u>9</u> 73	<del></del>	→SFC T	TRISONIC WIN	D TUNNEL TEST0	HUNTSVILLE, N-QUIESCENT	ALARAMA PHASE	. gaar an	TEST 27:	FLA 190/8
							- 1.AT&Dé	GREES FAMRES	 HEIT		
<del> </del>	FRANE	rea_	PTC	SK1.(1)	SK1-121	S*1 (3)	SK1941	SKIN(5) 400	EL-STING FE	EDER-PIFE	₹5 <del>+</del>
	1	10,67	1705.52	109.7	106.2	109.7	106.7	0.0	410.1	5°3	473.5
<del></del>	2	10.68	1005.52	169.7	105.A	108,6	107.1	00	406.2	577.0	480.3
a —	3	10.65	1812.36	116.1	106.7	198.8	10 <sup>8</sup> .4	0.0	401.9	365.j	484.7
		10.67	1829.20	139.7	184.9	108.4	109.8	0.0	397.1	554.7	485.5
SE		10,67	1634.47	116.6	105.3	108.0	110.1	0.0	394.1	548.4	488.1
OF TOOK OF	6	10.67	1860.78	111.7	105.8	100.0	111.4	0.0	391.0	544.1	490.3
E. E		10.00									
ANTITUTO 8								<u></u>			
75		TC P47/	nTc 0001-2	NO PSH/PS	A NO PSH/PS	A NO PSM/PS/	NO PSH/PS	A NO PSM/PSA	NO PSM/PSA	NO PSM/FSA	NO PSM/PSA
	FR PTC			5 0 007A	1 6 0.9862	1 11 0.9648	3 16 B.9851	2 23 0,96483	29 1.01340	34 0.99419	35 1,94139
	1 1793,4			4 0 9532	3 7 a.9786	0 12 0.9735	3 17 1.9162	9 24 0,97063	30 1.00397	41 8.97462	36 1.02644
<b>&gt;</b>	2 1613.9			7 0 8865	4 6 0.9883	9 13 G.9764	3 18 1.8025	2 25 0.96157	31 1.00035	42 0.93114	37 1.03260
<u> </u>	3 1812.4			0 4 0240	0 0 9793	3 14 0.9807	8 19 1.0018	0 26 0.98367	32 0.99781	39 0.96809	38 0.95186
***	4 1839.2			4 4 4504	in an n 9736	9 15 D.9894	7 20 1.0003	5 27 0.99455	33 0.99781	40 8.9742	43 0,97824
	5 1832,9				VO 20 CO		21 0.9934	6 28 0,99564			
<del></del>	6 1863,4	489.4 6.	0104 10,43						<u></u>		
<del></del>		<del></del>				18.019 PS	14.632	R/L -5.1	NACH 4	.898 TEM	188.0
		- <b>-</b>	ONBITIONS	ALPHA	0.80 0	ETA 6.80	ROLL	4.71 .00	PSH[22]/PS/	E 0,9749	
<del></del>			LE PARAMETER		825.9 TOTAL PRES	C= 483.1 SURE= 2025.	HEATER	TOTAL TEMPES	RATURES 545.	<u> </u>	
	neater year				· ·		·				<u> </u>
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0e	<u> August</u>	1973		<del></del>	HSFC T	RISONIC WIN E TECH OLOG	D TUNNEL Y TESTNO	<u>HUNTSVILLE.</u> N÷QUIESCENT	ALABAMA Phase		TEST 575	RUN 191/
				_ <del></del>	<del></del>							
	· · · · · · · · · · · · · · · · · · ·			+				E DATADE Skin[4]	GREES FAHRE	NHEIT Del-Sting Fi	cnco_DIPA	TON
FR	RAPE	FSA		PTC	SKIN[1]	SKIN[2]	SKIN[3]	2010141	SULUTS1 WI	DEC-31146 FI		
	1	10.0	50	1469,73	107.5	102.7	104.5	102.7	0.0	390.6	597.8	455.2
	2	10.0	50 :	1452,89	107.5	193.2	104. û	103.6	0 - 0	366.7	590.9	462,6
	3	10.0	63 :	1473.41	107.5	101.9	103.6	104.5	8 • 0	382.4	565.3	456.
	4	10.0	62	1477.10	108.0	103.2	104.0	106.2	0 <b>.</b> 0	379,8	555.3	469.
<del></del>	5	10.0	54	1492.89	108.0	102.7	124.0	107-1	0.0	375.9	545.8	473-1
<del></del>	6	10.	54 :	1497.10	108.8	101.9	104.0	108.8	0.0	373.3	539.3	474.
<del></del>				. '						·- , <del></del>		
				•.								
FR	PTC	TC I	P47/PT	C PORT-2	2 NO PSM/PSA	NO PSH/PSA	NO PSM/PSA	NO PSH/PS	A NO PSM/PSA	NO PSM/PSA	VO PSM/PSA	NO PSAZP
	1466.0	454.3	0.010	5 10.08	5 n.99731	6 0.98529	11 0.96236	16 0.98050	6 23 0.96455	29 1.0096B	34 0.99549	35 1.038
	1454.5	463.0	0.010	6 10.09	4 0.95181	7 0.97692	2 12 0.96964	17 1.0125	9 24 0.96746	30 0.99913	41 0.93688	36 1.022
3	1472.9	456.B	0.010	5 10.10	3 0.88520	6 0.58966	13 0.97328	18 8.9973	1 25 0.95982	31 0.99621	42 0.94089	37 1.027
-4	1476.6	469,5	0.010	5 10.12	2 1.08284	9 0.97874	14 0.97911	19 0,9954	9 26 0.98165	32 0.99476	39 0.92888	38 0.951
5	1494.5	473,0	0.010	5 10.13	1 1.15236	10 0.97292	2 15 0.98821	20 0.9918	5 27 0.99367	33 0.97692	40 0.93361	43 0,939
6	1497.1	475.6	0.01G	5 10,14		· · · · · · · · · · · · · · · · · · ·		21 0.9816	5 28 0.99403			
	<del></del>						<del></del>		•			
W 22	ND TURN	EL TES	T COND	ITIONS		48 P :	L8.009 PS	10.627	R/L 5.1	MACH 0	.902 TEMP	100.9
HOI	DEL ATT	TULE.	• • • • •		ALPHA S., PTC= 147	0.00 BE1	0.00	ROLL PTC/PSA=	0.0 138.98	PSH[22]/PSA	E 0.9513	
HEI	SMAGE :	RAMETE	RS	PARAFE: \$R:	HEATER T	OTAL PRESSU	J7E# 1645.	HEATER	TOTAL TEMPER			
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			Janes -							
					TENPERATU	es cateD	EGREES FAR	REAHLIT		
FRAME	454	FTC	541111	SKINTZI	441,131	9414[4]	54[N(5]	MODEL-STING	FEEDER-PIPE	TCH
- / - y====	10.61	1146.57	190.7	101.4	99.7	99.7	0.0	351.5	620.9	445.7
<u> </u>	17.63	1150.26	106.7	101.0	99.3	107.6	0.0	377.6	607.0	457.8
2			106.7	101.0	99.7	101.9	0.0	374.6	591.7	463.4
3	10.60	1165.52			100.1	103.6	0.0	372.0	580.0	466.5
4	10.62	1161.31	107.5	181.4				368.5	567.9	468.6
5	10.61	1163,41	107.1	99.7	99.7	104.5	0.0		559.2	471.2
6	10,64	1182.36	107.1	99.7	100.1	166.7	0.0	365.4	337,2	77.614

 FR	PTC	TC	P47/PTC	PORT-22	NO	PSH/PSA	NO	PSH/PS/	A NO	PSM/PSA	NO	PSH/PSA	NO	PSM/PSA NO PSM/PSA NO PSM/PSA NO PSM/PSA
 <u>ī</u> -	1152.4	446.2	2 0.0107	9,82	5	0.99839	6	0.98601	1 11	0.96088	16	0.97690	23	0.96380 29 1.09603 34 0.98018 35 1.03917
				0 44		0 06287	7	0.97836	6 12	0.96962	17	1.01040	24	0,96780 30 0,99435 41 0,09496 30 1,01714
 		44.3	4.04	0.93		0.88187	6	a.9878.	3 13	0.97071	18	0.99038	25	6.422\A 21 0.4603\ 45 0.03540 0\ 1100000
 	1102.0	466	0.0107	0 34		1 08286	9	0.9776	3 14	0.9761	19	G.98746	26	0.97836 32 0.97943 39 0.00300 00 01.22
						1 ·		0.9710	A 15	0.9841	9 20	0.95018	27	0.98928 33 0.97508 40 0.88952 43 0.89862
			6 0.0107			1,12131								0.99801
 6	1180.8	471.	7 0.0107	9,68							21	. 0670770		

	4 6.053 PT 18.013 PS	18.623 R/L 5.1	-MACH 6- 405 SEUL TRA+4
WIND TUNNEL TEST CONDITIONS			PSH(22)/PSA= 0.9271
NOBEL ATTITUDE	#TC= 1162.4 TC= 462.4		PSM(551/A2W= 0.451.7
HEATER PARAMETERS	HEATER TOTAL PRESSURE= 1250.	HEATER TOTAL TEMPE	HATURES 330.
NCWIEN ANNUCIEKO			

	80	AUGU	ST	1973	·						MSFC PL	TR:	TF	NIC CHNC	WIN DLOG	D TL	ST	- NBA	L-QU	SVILL IESCE	E. A	HAS	AHA_				Ţ	EST	575	RU	JN 193/8
									·					<b>-</b>																	
																-TER	PERA	TURE	DA	TA	DEGR	EES	FAHR	ENH	EIT-						
	F	RAME		25	1		FT				[1]			N(2)		SK1	(3)		SKI	V ( 4 )	S	KIN	[5] 4	ODE:	L-ST	ING	FEEDI	ER-P	IPE		TCH
		1		10	72		743.	43		9	8.3		. 1	95.6	3		94.5	i -	1	00.1			0.0			9.6	•	64	12,5		426,1
	:	5		10	.72		745.	53		9	8,8			96.7	7		95,4		1	80.6			00		37	1,6		62	25.5		434,8
<del></del>		3	-	10	.72	. :	746.	96		9	8,8	-		95,4	1		94,9	) <u>.</u>	1	01.4			0.0		37	).Z		61	11,2		441.3
		4		10	,73	•	749	75		9	8,4		,	94,9	•		94.9		1	02.7	- :		0.0		36	7.2		59	98.7		445.2
		5		10	73		756,	17		9	8.8			96.7	7		95,4	· ·	1	03.6			0.0		36.	3.3		58	37.8		449.5
		6		10	.75	<del></del>	763.	43		9	9.7		1.	97.1	ı		96.7	,	1	05.8			0.0		36	1.1		57	78.7		452.1
1 1		37						-	÷				:							· · · · · · · · · · · · · · · · · · ·											
		7				. :				1.1			1	: .							1.1										
-	FR	PT	Č	TC	P47	/PTC	P	RT+						1.																	PSH/PS
	1	739	.7	425.	3 D,	0109	:	9.3																							1.0408
	2	741	.3	434.	3 0.	0109	·	9.3																							1.0149
	3	744	.5	44U.9	₽ 0.	0108		9.3																							1.0142
	4	747	, 6	444.8	3 0.	0108	3	9.3		7.1																					0.8758
	. 5	757	.6	440.	7 0.	0108	<b>.</b>	9.3		1 1	.147	17	10	0.9	7495	15	0.98	215	<b>5</b> 0	968	16 2	7 (	9875	6 3	3 0.	9482	9 40	0.8	2579	43	0,8275
	6	764	• 0	451.7	7 0.	0107	,	9.3	3	· ·					:				21	0.945	04 2	8 (	.9875	6							
								·							٠.		<u></u>											-			
	ik Om	ND TU	NNE	L TES	ST C	ONDI	TIO	vs	• • • •	0		.98		PT G	BET	B.0:	11	PS IO	10 ROL	.736 L	R/	•••	5.1		MACH		- · ·		TEMP	1	10.7
	AV	ERAGE ATER	MD	DEL/I	1027	LE F	ARA	IÉ TEI	is	PT	C=	749	.1		TC=	44	41.0		PTC	/PSA= EATER	101	9.7	8 TEMPE	P\$	N122 URE=	1/PS 545	AF C	.871	16		
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OR AUGUST 1973	مصفیف و حدید پیورد و چیر از در از در این این این این این این این این این این	PLUME TECHNOLOGY TESTNON-QUIESCENT PHASE	1551 <u>575</u>	สบ <sub>ท</sub> 194/0
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					'		TEMPERATU	RE DATA	±G4555 FAHRE	yh <u>e</u> ::		
	F	RAHE	PSA	PTC	SKIP(1)	SKIN[2]	2K1-[3]	SK1-1141	5K[4[5] MO	GEL-STING FE	DER-PIPE	TCH
		<u> </u>	15.64	417.11	99.3	77.1	93.0	96.2	3.0	376.3	671.0	396.2
<del></del>		2	10.64	409.75	99.3	96.7	94.1	96.7	00	371.5	657.6	405.3
		3	10.64	411.32	99.3	95.4	94.1	97.1	0.0	365.9	644.6	411.4
· · · · · · · · · · · · · · · · · · ·			10.64	407.11	99.3	96.2	94.5	98.4	0.0	361.5	633,8	417.0
			10.05	413.43	99.7	95.5	94.5	98,8	0.0	356.6	622.5	420.5
	1.5	6	10.64	417,11	99,7	97.1	95.8	100.6	0.0	354.2	614.5	424,4

		FR	PTC	10	P4//P10	PUR1-22	NO PSH/PSA				04040		07444	21	0570	20	1 0024	5 34	n.85893	35	1.04097
		1	416,1	394.9	0.0107	9.04	5 0,99918	6 (	0,98755	11 (	1,90240	10 (	1,3,411		0,70707		1.000				- 4444
		2	409.7	405.3	0.0107	9.04	4 0,95340	7 (	6.97811	12 (	97011	17 :	1,08645	24	0.96721	30	0.9871	9 42	B.//1/3	30	1,01777
	·	3	411.9	412.3	0.0107	9.05	3 0.88727	8	0.99010	13 (	97338	18	98574	25	0.95849	31	0.9781	1 42	0.77682	37	1.01480
	<u></u>	+ 2		<u> </u>	0.0108	9,85	2 1.08275	9	0.97992	14 (	97520	19	0.97883	56	0.97738	32	0.9635	7 39	0.76773	38	0.85603
· ·	-			4.	0.0107	9.04	1 1.15106	10	0.97193	15	0,96210	20	0.96612	27	0.98719	33	0.9417	7 48	0.76919	43	0.77246
-					0.0100	9.05			<del></del>						0.98574						
<del></del>	•		· · ·	.,																:	
<del></del>	<del></del>	MIN	D. TUKA	EL TES	T CONDIT	TONS	0 6.0	36		8.00				R/L	5.1	.M.	LCH.	090	C TEM	10	7
	·	MOE	EL ATI	ITTULE.		PANETERS	. ALPHA	2.2	O BET		0,00 2.4	POL	/PSAR	38	.72	PSN	(22)/PS RE= 530	A= 0	.8497		

WIND TUNNEL TEST CONDITIONS 0	6.036 PT	18.009 PS	10.646	R/L 5.	1 MACH.	.0.900 TE	200 - 100 - 1-
MODEL ATTITUEE ALPHA		BETA 0.00	ROLL.	0.0	0001001	PSA= 0.8497	
ANCOACC MODEL JMO771 & PARAMETERS PTUS	412.2	TC= 412.4	PTC/PSA=	38.72 TOTAL TEMP	ranizeli E mature	30.	
HEATER PARAMETERS HEATE	R TOTAL PRE	ESSURE= 470.	MEATEN	TOTAL TELL			



	FRAME	PSA	PTC	SKIN(1)	SKIN[2]	SKIN[3]	SKINE41	EGREES FAHRE Skin(5) MO	DEL-STING FEE	EDER-PIPE	TCH
	FRAIL	10.66	367.57	101.4	100.6	104.5	105.3	0.0	514,6	946,8	502.0
		10.67	371,25	102.3	181.4	104.9	105.3	0.8	504.6	926.4	514.1
	<u> </u>	10.67	383.88	101.9	99,7	104.0	105.8	0.0	496,8	907.3	523.7
<del>-</del>		10,67	394.41	102.3	100.1	103,6	106.2	0.0	489.0	889.6	531,5
		10.68	400.72	102.3	100.6	104.0	106.7	0+0	480.3	872.2	537.5
		10.67	487.57	102.3	101.0	103.6	107.5	0.0	473.6	855.3	541.5

	-	FR	PTC	TC P47/PTC	PORT-22	NO	PSH/PSA	ND	PSM/PSA	NO	PSM/PSA	NO	PSH/PSA	NO	PSM/PSA	NO	PSM/PSA	ND	PSM/PSA	NO	PSM/PSA
		•	366.0	502.4 0.0107	8,99	5	0.99226	6	0.98030	11	0.95638	16	0.97124	23	0.95710	59	0.99842	34	0.85527	35	1,03538
		2	371.3	515.4 D.Q110	8,99	4	0.94864	7	0.96834	12	6,96471	17	1.00023	24	0.96145	30	0.98283	41	0.77409	36	1.01255
<u></u>	<del></del>		361.8	523.7 0.01ú9	8.98		g.8839c	8	0.98428	13	n.96616	18	0,98175	25	n.94949	31	0.97305	42	0.77590	37	1.01038
<del></del>	·		107.0	532.3 0.0108	8.99	2	1.07597	9	0.97486	14	0.96979	19	0.97305	26	0.96943	32	0.95928	39	0.76684	38	0.85165
<del></del>	:		(09.7	53=.0 0.010ª	7.00	1	1,14990	10	0.96725	15	ր,97921	20	0,96290	27	0.98392	33	0,93826	40	0,77083	43	0,77554
			4.5 a.s.	542.3 0.016									D.93464								

	FRAME	PSA	PTC	SKIN[1]	SKIN[2]	TEMPERATU SKIN[3]	RE DATA II Skin(4)	EGREES FAHRE: Skin[5] MO	DEL-STING FEE	DER-PIPE	TCH
	PRAME	10.67	425.99	96.7	99.3	101.0	101.7	0.0	587.0	964.1	510.2
<del></del>			423,68	97.5	100.1	101,9	101.9	0.0	576,6	941.1	523.2
		10.67	432.83	97.5	98.8	101.4	102.3	0.0	566.2	920.3	531.9
	3	10.69		98.0	100.6	101.9	164.0	0.0	557.1	903.0	539.3
		10.68	433,36	98.4	100.1	102.3	105.3	0.0	546.7	881.7	544.9
	5	10,68	435,46 439,15	98.0	100.6	101.9	106.2	0.0	539.3	864.8	549.3

<b>E</b> 0	PTC:	TC P47/PTC	P0RT=22	NO	PSH/PSA	NG	PSH/PSA	NO	PS4/PSA	NO	PSM/PSA	NO	PSM/PSA	NO	PSM/PSA	NO	PSM/PSA	NO	PSH/PSA
		510.2 0.0107	•	5	n.996n3	6	8.98306	11	0.95548	16	0.97214	23	0,95983	29	0.99893	34	0.85664	35	1,66585
				. 4	e. 95078	7	0.97214	12	0.96309	17	1.00255	24	0.96891	30	ü.98445	41	0.77518	36	1,01233
2		524.1.0.0107		7	0.000.0	<u></u> -	0.98626	13	0.96743	18	0.98445	25	0.95078	31	0.97612	42	0.78061	37	1.01233
<del></del>	-	531.9 0.0106			4 47874		0.97540	14	n. 96924	19	n.97576	26	0.97033	32	0.96091	39	0.77083	38	0.85483
4	432.3	539.7 0.0107 546.2 0.0107	9,65	<u> </u>	1.07931	<u></u>	0.04543	46	c 07829	20	n.96417	27	0.98372	33	D.93991	40	0.77445	43	0.77409
				1	1,15389	10	6.4020E	42	0127002	21	0.93738	28	0.98336	)					
- 6	437.6	549.7 0.0107	9.05								0,,0,0								

TOT COUNTY TOUS	Q 6.010 PT 18.002	PS 10.683 R/L	5.0 MACH	0.897 TEMP 187.0	
WIND TUNAFL TEST COMBITIONS	ALPHA 9.00 BETA 0.	0.0 POLL 0.0 PTC/PSA= 40.33		PSA= 0.8473	
AVERAGE NODEL/NOZZLE PARAMETERS			EMPERATURE= 6	30.	

J.								** ***		TEST 575	RUN 197/0
	13 AUGUST	1973		MSFC PLU	TRISONIC WIN	ND TUNNEL Gy testMo	HUNTSVILLE,	PHASE		1521 373	- KON 25770
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						TEMPERATUR	E DATADE	GREES FAHRE	VHE ! T		
	FRAME	PSA	PTC	SKIN[1]	SKIN[3]	SKIN[3]	SKIN[4]	SKIN(5) HD	DEL-STING F	EEDER-PIPE	†CH
	1	10.64	1121.78	181.9	101.0	101.0	104.0	0.0	551.4	885.9	557,5
	5	10.66	1112,30	102.7	99.7	101,0	104.5	G , O	539.3	849,2	567.5
		10.66	1109.15	102.7	99.7	101.0	104.9	0.0	527,1	813.7	574.4
	3			103.2	101.0	101.9	106.7	0.0	518.5	785,5	577.4
	4	10,65	1131.78		<u> </u>	101.9	108.8	0.0	507.2	759,9	578,7
·	5	10.66	1125,46	103.2	100.1			0.0	500.3	738,3	578,7
· <u> </u>	6	10.65	1145.46	104.5	101.4	102.7	110.6	<u> </u>	<u></u>		
				· · · · · · · · · · · · · · · · · · ·	<del></del>						
-			<del> </del>								
	FR PTC	TC P47/	PTC PORT-2	2 NO PSM/PS	A NO PSM/PS	A NO PSM/PS	A NO PSH/PS/	NO PSM/PSA	NO PSM/PS/	A NO PSMIPSA	NO PSMIPSA
	1 1119.7	555.4 0.0	108 9,65	5 0,994	2 6 0.9839	5 11 0.9591	8 16 0.97732	23 0.95881	29 1.0052	7 34 0.92143	35 1.03793
		567.0 0.0		4 0.949	2 7 0.9693	4 12 0,9675	2 17 1.0049	24 0.96353	30 0.9907	5 41 0.89349	36 1,01761
		575.3 0.0	•	3 0.8850	37 8 0.987 <u>4</u>	8 13 0.9718	8 18 6.9918	25 0.95446	31 0.9856	7 42 0.90147	37 1.02269
· · · · · · · · · · · · · · · · · · ·		577.4 0.0		2 1.0796	56 9 0.9776	9 14 8,9744	2 19 0.98349	26 D,97333	32 0.9744	2 39 0,88732	38 0,91817
1		:			B 10 0.9675	2 15 0,9827	7 20 0.9762	3 27 0.98649	33 0.9613	5 40 0.89168	43 0,89422
,	-	578.3 0.0			10 10 44,0,2			28 0,98640			
	6 1148.1	578,7 0.0	106 9,69	)	1. <del>*</del>		21 013300	<u> </u>			-
	<del> </del>			<u></u>					MACH	0.899 TEM	102.3
- <u> </u>	HIND TUNN	EL TEST CO	NDITIONS	O 6	.022 PT	17.998 PS	ROLL	R/L 5.1 D.O		<u> </u>	20210
	*****************	へいに、 /おのフラル	E DADAMETÉ	96 PYC= 13	174.1 IL	± 572.7	PTC/PSA=	105.47 Total Temper	PSM[22]/PS	A± 0,9009	
	HEATER PA	RAPÉTERS.	********	HEATER	TOTAL PRESS	SURE* 1240.	REALER	IOINE ICINE			
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i di serjet Seri <del> di didapatan</del>								<del></del>		<u></u>	
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					SAIN[2]	-TEMPERATUR SKIN[3]	E DATEDEG	HEES FAMILY Skin[5] 10:	FL-STING_FE	EDER-PIPE	TCH
	FRAME	-SA	PTC	SK1/ [1]				٠.٥	536.8	453.1	371.8
	1	17,50	1412.38	32.4	169.6	104.9	1,4,*			612.4	580,5
· · · · ·	2	tr. <del>.</del> 50	1479.15	9e	99,3	104,		<u> </u>			533.5
	š	19.58	1465.99	98.6	98,8	103.6	1.5.3	<u> </u>	518.0	778.3	
·	4	10,58	1417.84	98.5	99,8	113.6	105.7	5.0	508.1	753.4	583,5
· . — · ·			1444,41	99.3	98.8	104.5	108,4	0.0	499.0	726.6	583.5
<del></del> -		20,59			101.0	105,3	111.0	0 <u>_0</u>	495.1	719.2	583.5
	<u>-</u>	15ā	:441,25	163.5	<u> </u>						
	<del></del>										
:. 	1 12 <u>- 12 - 1</u>									NO DENZOSA	un PSX/PSA
	FR PTC	TC P47/	PTC PORT-2	2 NO PSM/PSA	NO PSH/PS/	NO PSM/PS	A NO PSH/PSA	NO PSM/PSA	NO POMVEDA	NU -3-7-3-	35 - 37788
		572.2 0.1		5 0.99535	6 6.98183	3 11 0.9580	8 16 0.98110	23 0.95954	29 1.009eü	34 6.4354	33 1.00100
				4 n.95113	7 0.96941	12 0.9675	8 17 1.01069	24 0.96356	30 0.99717	41 6.93542	36 1.02092
		561.3 0.		7 0 87052	A 0.0862	13 0.9705	0 18 <b>0.996</b> 08	25 0.95077	31 0,99169	42 6,94273	37 1,02860
		583.9 0.		3 0.57936	0 019002	24 - 0754	2 19 0.99060	26 n.97415	32 0.98402	39 0.92775	38 0,94967
<del></del> -	4 1415.4	583.9 0.	0107 9.42	2 1.30266	A 0.4//D	0 14 0.7/50	5 20 0.98694	27 4 02087	33 0.97761	9.93323	43 0,93725
	5 1440.	583.5 0.	0106 9,94	1 1,16572	13 6.9672	1 15 0.9858	2 SU 0.A50A4	27 0,75701	<u> </u>		
	6 1444.5	583.9 0.	0106 9.96				21 0.97415	28 0.98950			
									<u> </u>		
			OMUITIONS	0 6.1	73 PT	18.011 PS		R/L 5.1	HACH S	905 TEMP	102,2
<del></del>	MAREL AT	FTYHOE		ALPHA	0.00 BE		OTO (DCA	.0 134,24	PSME221/PS/	= C,9380	
				S. PTC= 14	TOTAL PRESS	URE= 1640.	HEATER I	OTAL TEMPE	ATURE 635		• •
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		F94.15	~~	2TÇ	S*15(31	SAT-(2)	-1545584178 1545584178	SAI 4(4)	SKIM[5] MOU	EL-STING FE		TOP
		*	10.Es	1795,59	114,5	111.4	112.3	1,9,7	لا و ان	5.6.3	829.3	<u> 533,5</u>
	<u> </u>	2		17:3, sH	114,5	111.4	114,7	115_	3 و يا	<u>, .498.2</u>	7P7.7	<del>59</del> 1.4
~ Q			10.57	_	114.9	110.1	114.5	111,4	0.0	489.4		591,3
3	<u> </u>	4	11.56	1575.17	114,5	109.7	113.5	112.7	0.0	493.4	724.0	597.7
Stood HOOR	2	÷	17,57	1858.29	115,3	110.1	113.6	114.5	0.0	476,4	703.1	<u> 590.9</u>
25 25	7 10		57	1867,57	112.0	109.7	113,0	116.2	0.0	473.4	655.0	590 <u>.8</u>
	PACE TO THE PACE T											
	12 to					Mir PSH/PS	A NO PSM/PSA	NO PS4/PS	NO PSH/PSA	NU PSH/PSA	+2 PS*/PSA	NO PS*/PSA
		FR PTC	1C P47/	165 10.29	10 PS-7/SE	0000	0 44 0 95985	1A 5.9858	23 n.96055	29 1.01550	34 0.98655	35 1.03737
		1 1791.8	584.8 0.0	105 10.29	5 4.99678	P 0.4950	9 11 0.95	19 19 19 19 19 19 19 19 19 19 19 19 19 1	2 24 0 06427	30 1 00556	41 0.97923	36 1,02567
		2 1793.9	599 0.0	15,29	4 0,95181	7 0.9689	9 12 0.96973	17 1.0154	3 24 0,96497	30 1.00220	<u> </u>	77 • 33664
		3 1819.1	591.7 0.1	105 10.30	3 0,86050	8 0.9869	1 13 0.9737	5 16 1.0044	6 25 0.95364	31 1,00263	42 0.98837	3/ 1,35004
	<u> </u>		EG: 4 6	34.34 43.31	2 1.08601	9 8.9785	0 14 0.9799	5 19 1.0004	4 26 n.97814	32 0.99861	39 0.97338	38 5.98018
9		5 48A0 2	591.3.0.0	0104 10.33	1 1.1671	8 10 0.9682	6 15 n.9898	4 20 1,9998	1 27 0.99313	33 0.99841	40 0.97814	43 3.98216
<u> </u>								21 0,9938	6 28 0,99240		<del>-</del>	
	<del></del>	6 1856.5	287.0 U.	0104 10.32	<u> </u>							
		arun Tuna	IFL TEST C	ONDITIONS			18.087 PS		n n			102.1
		HODEL ATT	TTUDE	***********	ALPHA C. OTC+ 1+1	20 Ti	TA 0.00 C= 589.8	DTC/PCAR	172.90	PSH1221/PSA	0.9741	
		HEATER PA	TRAMETERS.	LE PANAMETER	HEATER	TOTAL PRES	SURE= 2020.	HEATER.	TOTAL TEMPER	AIDNE - DEC.	·	
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13 AUGUST	1973		MSFC TI PLUM	RISONIC ⊭IN E TECHNOLOG	O TUNNEL Y TESTNO	N-OUIESCENT	PHASE		TEST 575	RUN 1997
FRAME	PSA	PTC	SKINI11	SKIN(2)	-T PERATUR	E DATADE Skin[4]	GREES FAHRE Skin(5) MO	NHEIT DEL-STING F	EEDER-PIPE	TCH
1	10.60	1800.72	120.1	114.0	114.5	108.4	0.0	557.1	822.4	587.8
٤	10.60	1811.78	119.7	113.2	114	149.3	0 • ₺	54è.ô	785.5	596.5
<u>.</u>	10.61	1831.78	123.1	112.7	114.0	110.1	Ú • O	541.0	756.1	601.3
4	10,63	1829.15	120.1	113,6	114.5	111.9	υ <b>.</b> 0	533,6	733.9	603.0
5	10,63	1850,20	120.5	112.3	114.0	114.8	0.0	526.3	714.9	693.1
	10.62	1849.15	121.0	112.7	113.6	116,2	0.9	519,3	700-1	603.9
						•				
FR PTC	TC P47/F	TC PORT-22	NO PSM/PSA	NO PSM/PSA	NO PSM/PSA	NO PSMZPSA	NO PSM/PSA	NU PSH/PSA	NO PSIT/PSA	NO PSM/PS
1 1799,7	587.8 0.01	06 10,37	5 0.99607	6 6.98332	11 0.95956	16 0.98587	23 0.96220	29 1.01426	34 0,98660	35 1,0350
2 1820.7	596.5 Q.B1	u4 10.38	4 0.95273	7 0.97349	12 0.96876	17 1.01537	24 0.96475	30 1.00590	41 0.97895	36 1.0226
3 1331.8	601.3 0.01	04 10,39	3 0.88208	8 0.98915	13 0.97313	18 1.00554	25 0.95492	31 1.00336	42 0.98952	37 1.0350
4 1332.3	562.6 0.01	05 10.41	2 1.084<1	9 0.97786	14 0.97859	19 0,99899	26 9,97932	32 0.99971	39 0.97276	38 0.9858
5 1853.4	603.9 B.01	.05 10.42	1 1.15867	16 0.96876	15 0.98915	20 1.00008	27 0.99389	33 0.99935	40 0.97823	43 0.9818
6 1854.4	603.9 U.01	.05 10.42				21 0.99534	28 0.99461			<del></del>
		DITIONS					R/L 5.1	MACH 0	.902 TEHP	106.7
AVERAGE 40	DEL/NOZZLE	PARAMETERS	ALPHA PTC= 1832 HEATER TO	0.00 BET 2.0 TC= DTAL PRESSU	599.2	PTC/PSA=	1.0 172.50 OTAL TEMPER	PSM[22]/PSA ATURE= 666.	= 0.9791	. <u></u> _
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TEST STUIN HOLDERAL

	<b>-</b>					TEMPERATUR	E DATA DE	GREES FAHRE	WEIT	Lambara	TCH
-	FRAME		PTC	SKI <u>VIII</u>	SKIN[2]	<u> 2₹1∠[3]</u>	_\$K13[4]	SKINISI AND	ieras programa.		574.4
-		7.43	:794.41	111.5	164.5	1:7-1		i: • 0	541.3		
					415.4	_ 1/ 4.4	117,6	0	535.5		577.4
	2	7,44	1793,98	11235		· <del>-</del>	112.7	0.0	527.1	737.*	575.7
	3	7,45	1809.15	110.6	104.9	<del>-</del>		6.0	520.2	715.1_	573.5
	4	7,45	1831.72	111.5	105,3	107.1	115.8		512,8		571.2
		7.40	1851.74	113.5	104.9	106.7		0.0			
		7 44	1853.36		105.8	107.1	121.0	0.0	505.9	567.5	
						DEW/DE	A NO DSW/PS	A NO PSM/PSA	NO PSM/PSA	NO PSM/Far	W. PSM/PSA
	FR PTC	TC P47	PTC PORT-	22 NO P5M/PS	A NO PSH/PS	SA NO PSMIPS	AU FORFE	0.00	20 1.02965	34 9.94965	35 1.13338
	1 1796.5	574.4 0.0	0105 6,99	5 0.8744	0 6 0.993	30 11 0.9761	7 16 0.9990	1 23 0.91853	27 1702-02	44 0 01350	TA 0.99175
	<del></del>					02 42 0.9637	1 17 1.0462	7 24 0.99851	30 7. 30107	41 443005	
		577.9 0.				26 13 0.9408	6 18 1.0083	36 25 0.9304°	31 0.4/01/	45 04440	
		576.1 0.	<u> </u>			n4 44 1-0206	2 19 1-0047	73 <u>26 1.0120</u>	35 0.48083	24 0.49150	<u> </u>
	4 1831.8	574.4 0.	3145 7.9	4 21.2848	36 A A 332	10 15 4 POE	6 2n n 98n	32 27 1.0156	3 33 0.98032	40 9.95124	43 0.94553
	5 1856,5	572.7 1.	0104 7.0	4 1 1,392	98 10 <b>6.9</b> 76	15 1.1U2	<u> </u>		•		
	6 1860.2	569.2 0.	0104 7.9	4	<u> </u>		21 0.972	53 28 1.8234	£		
					476 PT	18.007 P	7,449	R/L 5.4	HACH 1	.198 TEAR	101,9
	MIND TUNN	EL 1557 C	CONDITIONS	Q 7	0.00	ETA 0.00	~= <i>^ ^ ^ ^ ^ ^ ^ ^ ^ ^</i>	0.0 245,13	PSH[22]/PSA	= 5.9429	
	AVERAGE H	IDJEL/NDZZ	LE PARAMETE	RS. PTC= 1	826.1	C= 574.1 SURE= 2010.	HEATER	TOTAL TEMPE	RATURE: 620	· .	
	HEATER PA	RAMETERS.		NEATER	10100	SURE# 2010.					
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<u> </u>	FRAME	PSA	PTC	SKIN(1)	SKINISI	SKIN[3]	SKINI41	SKIN(51 M	ODEL-STING F	EEDER-PIPE	TCH
	1	7.46	1781.25	131.4	121.8	127.9	122.3	0.0	560.5	786.5	583.1
	2	7.45	1802.30	135.9	120.5	126.6	123.6	G • 0	551.0	752.6	585.2
·• • · · · · · · · · · · · · · · · · ·	3	7,46	1803.88	130.5	119.7	125.3	124.4	5.6	541.5	722.2	583.9
	4	7.45	1805.46	130.1	119.7	124.4	126.2	0.0	532.6	699.7	583.5
4 80a -	5	7.46	1818.62	13ù.5	119.2	124.0	128.8	0.0	525.0	681,0	582.2
	<b>A</b>	7.45	1830.20	136.1	119.7	122.3	130.5	3.0	517.6	667.6	582,2

	FR	PTC	To	P47/PTC	PORT-22	N.C	PSM/PSA	NO	PSH/PSA	NΩ	PSM/PSA	NO	200	NO	PSM/PSA	NO	PSH/PSA	NO	PSM/PSA	NO	PSM/PSA	
	1	1783.9	583 <b>.</b>	1 0.0105	7.76	5	0.89545	6	0.96860	11	1.00181	16	1. 2	23	1.06406	29	1.09364	34	1.04796	35	1.13047	:
	Author.	11.1	11.1	7 0.0105		· 4	0.80051	7	1.06510	12	0.99766	17	1.11024	24	1.04954	30	1.07650	41	1.02930	36	1,09364	. •
					7,78	200			771			1.3	447.7			* :			F1. 1119		120 1	
	tion :			9 0.0165	at Bir i		The second second		100	44		14.	1741 L 174 H 1874		- G - 149-75	Pt. 1 -	4 (1)		Det 2015	1.11	1.03346	- 11
	W.			6 0.0106				F	777 - 7, 7, 4, 7, 4	100000		7.1	300 To 1820 C	100	or and the	344.3	9 14 14		Marine State of the Control	19.1	1.03812	
		Talle.	4	2 0.0105							1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	**1	A	192	1.08378	40.00						98 

WIND TUNNEL TEST CONDITIONS.	7.474	PT 18.007 PS	7.456 R/L	5.5 MACH 1.197	TEMP 100.7
MODEL ATTITUDE	ALPHA -0.02		PTC/PSA= 242.81	PSM(22)/PSA= 1.0	1443
HEATER PARAMETERS	HEATER TOTAL	PRESSURE= 2010.	HEATER TOTAL TE	HPERATURE: 64".	

					TEMBEDITUDE	DATA	GREES FAHRE	HEIT		
FRAME	PSA	PTC	SKIN(1)	SKINIZI	SKIN[3]	SKIN[4]	SKINIST HOL	EL-STING FEET	ER-PIPE	TCH
1	7.42	1430.72	110.1	107.1	112.3	108.8	0.0	564.4	816.7	569.2
2	7.41	1447,57	109.7	106,2	111.0	189.7	0.0	553.6	777.3	573.5
3	7.42	1434.41	116.1	106.2	110.6	111.9	0,0	544,5	746,1	572.7
4	7,42	1451,78	109,7	104,9	109.3	114-0	0.0	535.8	719.6	571.8
5	7,42	1446,51	110.1	104.9	109,3	116.6	0.0	528.0	697,9	570,5
6	7,42	1464,94	109.7	105.8	108,4	118,4	0.0	520.2	679,7	569.
									A BCU/BCA A	.n 254/9
FR PTC	TC P47/	PTC PORT-22	NO PSH/PSA	NO PSH/PSA	NO PSH/PSA	NO PSM/PSA	NO PSM/PSA	NO PSH/PSA NI	4 - 02815 1	S 4 434
1 1428.6	569.6 0.0	107 6.79						29 1.03103 3		
2 1446.0	573.5 0.0	105 6,78						30 1-00445 4		
3 1432,0	573.1 0.0	107 6.80						31 0.97735 4		
4 1456.5	571.8 C.O	105 6.78						32 0.98412 3		
5 1441.8	570.5 0.0	107 6,79	1 1,38705	10 0.97630	15 1.00393	20 0,98891	27 1,01435	33 0.98204 4	0 0.88248 4	13 0.872
6 1466.0	570.1 0.0	106 6.80		-		21 0.96953	3 28 1.01852			
HIND TUNN	L TEST CO	NDITIONS	7.4	86 PT :	18.011 PS	7.421 POLL (	n . 0	MACH 1.2		101.4
AUCDAPC M	りわこ、 メルタフフレ	F PARAMETER	S PTC= 144	15.3 TC:	= 571.4	PTC/PSAs		PSM1221/PSA# ATURE# 610.	0,9150	
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FRAME	PSA	PTC	SKIN[1]	SKIN[2]	SKIN[3]	SKIN[4]	GREES FAHREN	HEIT E <b>L-STING F</b> O	EEDER-PIPE	TCH
1	7,42	1140,20	164.0	101.4	104.5	102.7	0.0	542.8	880.4	567.
2	7,43	1131.78	104.0	100.6	104.0	104,9	0.0	535.4	842.3	574.
33	7,42	1136.51	104.0	100.1	104.0	106.7	0.0	527.6	808.5	577
4	7,42	1147.04	104.0	99,7	104.0	108.8	0.0	519,8	777.7	577
5	7,43	1154.94	104,0	100.6	103.6	111.4	0.0	514.1	752,6	578
6	7,43	1163.36	104.5	100.1	103.6	114.5	0.0	507.2	730.0	576
FR PTC	TC P47/F	TC PORT-22	NO PSM/PSA	NO PSM/PSA	NC PSH/PSA	NO PSM/PSA	NO PSM/PSA I	NO PSM/PSA	NO PSH/PSA	NO PSM/
1 1142.3	567.9 0.01	06 6.69	5 0.88181	6 0.99633	11 0,97759	16 1.00206	23 0.91929	29 1,03277	34 0.91669	35 1.13
2 1130.2	574,4 0.81	07 6.70	4 0.77770	7 0.97967	12 0.96770	17 1.04630	<b>24 1.0005</b> 0 3	30 1,00310	41 0.80060	36 8.99
3 1136,5	577.4 0.01	08 6.71	3 0.94686	8 0.99373	13 0.94167	18 1.01039	25 0.92970	31 0.97863	42 0,81154	37 1.02
4 1143.9	577 <u>.4 0.01</u>	ŋ8 6,69	2 1,28263	9 0.97759	14 1.01039	19 1.00310	26 1,00622 3	32 0.98592	39 0.79904	38 0.90
5 1152.3	578.3 0.01	07 6.69	1 1.36570	10 0.97863	15 1.00414	20 0.98644	27 1.01143 3	33 0,98071	40 0,81986	43 0.80
6 1162.3	576.1 0.81	07 6.70				21 0.96874	28 1.01663			<del></del>
MODFL ATTI AVERAGE MO	TUBE DEL/NOZZLE	DITIONS	ALPHA PTC= 1144	0.00 BET	4 6.00 575.3	PTC/PSA= :	.0	M[22]/PSA=	200 TEMP	102.3
· .	** 4									
	7T 4									

Ťŧ	sī :	575	RUN	203/0

CEC	TOI	COMPC	482.5	TIMALE	HUNTSVILLE.	AL ARAM	
							•
				***	NON-QUIESCENT	DUICE	
PI.E	IME	1 E E MINI	JLUGT	1001	いいはこのひとこうじにょう	FRASE	

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	13 AUGUST	1973		∺SFC PLU	TRISONIC WIN	ND TUNNEL GY TESTNO	HUNTSVILLE. N-QUIESCENT	ALABAMA PHASE		TEST 575	RUN 203/0
	FRAME	PSA	PTC	SKIN[1]	SKIN(2)	-TEMPERATUR SKIN[3]	E DATADE Skini41	GREES FAHRE SKIN[5] MO	NHEIT DEL-STING F	EEDER-PIPE	TCH
	1 .	7.43	772,30	101.4	98.4	99.3	102.3	0.0	550.1	873.9	548.4
	2	7,45	776,51	101.8	98,8	99,3	104.0	8,0	541,9	844.9	558.8
	3	7,45	783,36	101.4	97.5	98,8	105.3	0.0	533.2	818.9	563,1
	4	7.46	798,20	101.4	98.0	98.8	107.1	9.0	525.8	795.0	566,2
	5	7,44	795,99	101.4	99.8	99.3	109.3	0.0	518,9	774,7	568.3
2	6	7.45	799,67	101.G	96,7	98.6	111.0	0.0	511.5	754.3	567.9
S S S S S S S S S S S S S S S S S S S							NO DE 4004	1 . a ben /66/	NO 254 4554	L NO DEM/BSA	NO DSW/DSA
40-	FP PTC					A NO PSM/PSA					
	1 770,2	548,4 0.01	<u> 18 6.62</u>			4 11 0.97565					
<del></del>	2 774,9	558.8 0.01	08 6,63			<u>3 12 0,96163</u>					
	3 760.2	562.7 0.01	08 6,64			0 13 0.94449					
	4 788.1	565.7 0.01	ú7 6.63	2 1.2814	8 9 6.9761	7 14 1.01511	19 1.00525	5 26 1.00732	32 0.9865	39 0.7 <sub>0</sub> 513	38 0,90815
	5 798.6	560.8 0.01	ը7 6.63	1 1.3832	5 1, 0.9777	<u>3 15 1.0:576</u>	20 0.9824	27 1.01148	33 G.98084	4 40 0.72590	43 0.71655
	6 800,2	566,3 0,01	07 6,62		<u>,, </u>		21 0.96994	4 28 1,01926			
			DITIONS		478 PT	18.011 PS	7.449 ROLL (	R/L 5.4	HACH :	1.196 TEHP	102.1
	AVERAGE MI	NAFI ZNAZZI E	PARAMETERS	S FTC# 7	85.4 TC TOTAL PRESS	= 562.1	PTC/PSA=	105,43 TOTAL TEMPER	PSM(221/PS/ ATURE= 620		
											· · · · · · · · · · · · · · · · · · ·
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	เขยยรา			PLU	TRISONIC WI ME TECHNOLO	GY TESTN	ON-QUIESCENT	T PHASE			
						TEMPERATU	RE DATADE	EGREES FAHREN	HEIT EL-STING FE		TCH
FRI	IHE	PSA	PTC	SKIN(1)	SKIN(2)			0.0	540.6	935.5	508.5
· · · · · · · · · · · · · · · · · · ·	1	7,47	381.25	106,1	98.0	161.0	102.3				518.9
	5	7,48	360,20	100,6	97.1	100.1	102.7	0.0	532,3	916.:	
	3	7,48	385.46	100.1	97,5	100.1	103,6	0.9	525,0	896.9	527.6
	4	7,46	386.51	99,7	97.1	99,7	164,5	0.0	517.2	878.7	532,8
	5	7,46	390.20	100.6	96,7	99,7	105,8	0.0	509.8	86 <b>0.</b> 5	537,5
	6	7,48	392,83	100.6	98.4	100,6	108,0	0.0	504.2	846.2	541.0
					·						<del></del>
										·	
FR	PŤC	TC P47/	PTC PORT-2	2 ND PSM/PS	A ND PSM/PS	A NO PSM/PS	A NO PSM/PS	A NO PSM/PSA	NO PSM/PSA	NO PSM/PSA	NO PSM/PS
		508.9 0.0	* .					8 23 0.91095			
								7 24 0.99946		•	
:		519.3 0.0		•			•				
3	383.4	526.0 0.0	105 6.63					3 25 0,98648			
- 4	385.5	533.6 0.0	166 6.63					2 26 1.00619			
5	389.1	537.5 0.0	105 6.60	1 1.3752	3 10 0.9746	2 15 1,0046	4 20 0,9797	9 27 1.01033	33 0.97721	<u>40 0.57439</u>	43 0.5677
6	392.3	541.5 0.0	185 6,63	<u> </u>			21 0.9694	4 28 1.02275			
•									<u></u>		
# TN	n TUNN	EL TEST CO	NDITIONS	7.	471 PT	18.011 PS	7,473	R/L 5,4	MACH 1.	195 TEMP	102,3
HOD	EL ATT	ITUSE				TA 0.00 = 528.2	ROLL PTC/PSA=	9.0 51.49	PSM[22]/PSA=	0.8864	
HEA	TER PA	RAMETERS	<u> </u>	HEATER	TOTAL PRESS	URE= 440.	HEATER	TOTAL TEMPER			
	1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1	· · · · · · · · · · · · · · · · · · ·	<del></del>								
<u> </u>		· · · · · · · · · · · · · · · · · · ·									
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		territoria.									

JGUST 1	PSA 7.38 7.40	91C 388.0 387.5	9	PLU	SKIN(2)	IND TUNNEL DGY TESTNI TEMPERATUR SKIMISI 114.5		PHASE	PETT PEL-STING FE	COCK-1 1. E	TCH
2	7.38	388.0	9	116.2	108.8	2KIr-[2]	SKIN(4)	SKINIST MET	EF-3.140 LE	COCK-1 1. E	
2	7.38	388.0	9	116.2	108.8	2KIr-[2]	SKIN(4)	SKINIST MET	EF-3.140 LE	COCK-1 1. E	
2	7.38	388.0	9	116.2	158.8						
2	7.40					114.5	1174		2304/	896.9	505.9
		367.5	7	116.2			115.3	0.0	529.3	879.1	516.7
5				<u> </u>	109.3	114.0			520.2	860.9	522,4
	7.37	388.0	9	115.8	106.7	112.7	114.9	0.0		844.5	528.4
4	7.48	392.3	ð	115.8	107,5	111.9	114.9	0+0	512.8		
	7.39	390,7	2	115.8	105.8	111.0	115.8	0.0	505.0	828.0	531.9
<b>b</b> :	7.43	394.4	1	115.8	107.5	111.4	117.5	0.0	499.8	814.6	535.8
											<del></del>
<del></del>	· · · · ·	- <del>,</del>									
		.D	14-22	un Deward	A NO PENZE	SA NO PSM/PS	A NO PSM/PSA	NO PSM/PSA	NO PSM/PSA	NO PSM/PSA	NO PSM/PSA
			11-22 1	5 - 8044	7 4 0 074	000 11 1 0061	0 46 1-07149	23 1.06469	29 1.08981	34 0.97994	35 1,14683
586.0	505.9 0.0	105	7.12	> 0,8943	3 0 8.476	00 II 1:0001	4 47 4 40944	24 4 05780	30 1-07777	41 n.63411	36 1.09661
386.5	517.2 0.0	1104	7.11	4 0.8036	2 7 1.061	103 12 1.0029	6 1/ 1.10004	24 1,09707	30 2107777	42 0 43615	37 1 12015
387.0	522.8 D.C	1184	7.12	3 0,9396	5 8 1.10	864 13 0.9987	7 18 1,10341	25 0,98935	31 1.0/630	45 0.00017	00000
391.3	529.3 0.0	0104	7.12	2 1,2922	8 9 1.10	079 14 0.9898	8 19 1.09451	26 1.05266	32 1.08196	39 0.62888	30 0.77074
390.2	532.3 0.0	01:5	7,12	1 1,4084	3 10 1.04	952 15 1,0359	2 20 1.08824	27 1.07463	33 1.07620	40 0.63829	43 0,6430
			7.12				21 1.08246	28 1.08824		<u></u>	
					402 BT	18.009 PS	7.393	R/L 5.5	MACH 1	.203 TEMP	101.3
TINNE	L TEST CO	DMUITION	<del>3</del>					1.0			
ATTT	TIBIE			. ALPHA . PTC=		BETA 0.00 TC= 524.0	PTC/PSA=	52.66	PSH1221/PSA	= 0.9627	
	PTC 586.0 ! 586.5 ! 587.0 ! 391.3 !	PTC TC P47/ 386.0 505.9 0.0 386.5 517.2 0.0 387.0 522.8 0.0 391.3 529.3 0.0 390.2 532.3 0.0	PTC TC P47/PTC P06 386.0 505.9 0.0105 386.5 517.2 0.0104 387.0 522.8 0.0104 391.3 529.3 0.0104 390.2 532.3 0.0105	PTC TC P47/PTC PORY-22   386.0 505.9 0.0105 7.12   386.5 517.2 0.0104 7.11   387.0 522.8 0.0104 7.12   391.3 529.3 0.0104 7.12   390.2 532.3 0.0105 7.12   394.9 536.7 0.0105 7.12	7.43 394.41 115.8  PTC TC P47/PTC PORT-22 NO PSM/PS  886.0 505.9 0.0105 7.12 5 0.8941  886.5 517.2 0.3104 7.11 4 0.8036  887.0 522.8 0.0104 7.12 3 0.9396  891.3 529.3 0.0104 7.12 2 1.2926  890.2 532.3 0.0105 7.12 1 1.4084  894.9 530.7 0.0105 7.12	7.43 394.41 115.8 107.5  PTC TC P47/PTC PORY-22 NO PSM/PSA NO PSM/6  386.0 505.9 0.0105 7.12 5 0.89413 6 0.976  386.5 517.2 0.3104 7.11 4 0.80362 7 1.06  387.0 522.8 0.0104 7.12 3 0.93965 8 1.106  391.3 529.3 0.0104 7.12 2 1.29228 9 1.10  390.2 532.3 0.01°5 7.12 1 1.40843 10 1.04  394.9 536.7 0.0105 7.12	PTC TC P47/PTC PORT-22 NO PSM/PSA	7.43 394.41 115.8 107.5 111.4 117.5  PTC TC P47/PTC PORT-22 NO PSM/PSA NO PSM	7.4y 394.41 115.8 107.5 111.4 117.5 0.0  PTC TC P47/PTC PORT-22 NO PSM/PSA NO	PTC TC P47/PTC PORT-22 NO PSM/PSA	7.43 394.41 115.8 107.5 111.4 117.5 0.0 499.0 814.6  PTC TC P47/PTC PORT-22 NO PSM/PSA N

			n <b>T</b> A	CKINIA)	SKIN[S]	TEMPERATUP	E DATADE Skini41	GREES FAHRE! Skinisi no!	HEIT EL-STING FE	EDER-PIPE	TCH
<del>=</del>	FRAME	PSA	PTC	SKIN[1]		82.4	85.6	0	548.0	883.G	508
<del></del>	1	5.35	336.05	79,3	82,4				541.0	867.4	518
		5,38	334,99	80.2	81.1	82,8	86.7	<u> </u>		854.0	526
	3	5.38	338,15	80.6	83.2	84,1	87.6	0.0	534.1		
	4	5.38	336,05	61.9	61.9	F4.1	88.4	0.0	526.3	640.1	531
	5	5,38	340,78	81.5	63,7	84.5	89.7	3.0	520.6	827,6	537
·	6	5.35	344,47	81.9	82.8	£ <b>5.</b> 4	90.6	0 <b>.</b> C	513.7	814.6	540
<u>F</u>	R PTC	TC P47/P	TC PORT-2			SA NO PSM/PSA					
	1 334.5	508.9 0.01	08 5.04			30 11 0.95039					
	2 332.9	515.9 0.01	08 5.03	4 0.7574	4 7 0.9352	7 12 0,91943	17 8.98431	24 0,96695	30 0.94247	41 0.57888	36 1.10
	3 334.5	526.3 0.01	ga 5.03	3 0.9777	5 8 6.9482	23 13 0.91871	18 5.91223	25 0.96431	31 0.98783	42 0.58392	37 1.02
	4 334.5	531.0 0.01	08 5.43	2 1.2959	9 0.9647	79 14 0.93311	19 0.93959	26 0.89135	32 0.97847	39 0.57600	38 1.01
	5 540.8	538.0 0.01	.¢8 5.02	1 1.3960	7 10 0.9504	17 15 0.93311	20 6.93099	27 0.90791	33 0.96767	40 0.58464	43 0.57
		54ù.6 0.01						25 0.90431			
	<u> </u>										
	IND THUM	EL TEST CON	DITIONS	0 7.	761 PT	18.011 PS	5.372	R/L 5.3	MACH 1	.437 TEMP	103.4
M	ODEL ATT	TTUDE ODEL/NOZZLE RAMETERS	DADAMETER	ALPHA 9 RTG= 3	*0.62 81 36.7 136	ETA 0,00 C= 527,3 SURc= 380.	PTC/PSA=	62.67 OTAL TEMPER	PSM[22]/PSA:	= 0.9358	
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FRAME	PSA	FTC	SKINETI	SKINI21	SKIN[3]	SKIN141	SKINIST	RENHEIT HODEL-STING	FEEDER-PIPE	TCH
4	5.02	387.57	103.2	99,3	103.6	191.9	0.0	548.8	986.2	502
2	5.06	364.41	103.2	99.7	103.6	101.	0.0	541.5	958.0	517
		787,57	104.0	100.6	103.6	101.0	0.0	533,6	935.5	527
	5.12	389.15	103.6	98.0	102.3	181.0	5.0	525.8	915.1	533
	5.09	392.83	103.2	99.3	102.3	101.9	. 0 • 0	520.2	895.6	539
	5,12			95.8	102.3	102.3	0.0	512.6	877.4	544
<u> </u>	5,12	393.58	103.2	95.8	102.3	102.3	0.0	212.0		

FF	PTC	TC I	P47/PTC	PDRT-22	an PSP/PSA	NO PSH/PSA	NO	PSM/PSA	NO	PSM/PSA	NO	PSM/PSA	NO	PSM/PSA	NO	PSM/PSA	04	PSM/PSA
·			U.Q106		5 0.91391	6 6.90247	11	r,95659	16	0.96574	23	0.92610	29	0.97717	34	1.02671	35	0.93677
			0.0106			7 8.99546												
			0.0106			8 0.98022												
			0.0107			9 1.,1156												
			(,0106			10 0.08555												
			0.0106	5,30					21	1.13495	28	0,99546					•	

WIND TUNNEL TEST CONDITIONS	n 7.740 PT 18.004 PS	5.075 R/L 5.2 MACH 1.476 TE	MP 106.1
MODEL ATTITUDE	VIBRY 0.00 PELV AND	ROLL 0.0 PTC/PSA= 76.51 PSM(22)/PSA= 1.0332	·
AVERAGE MODEL/NOZZLE PARAMETERS	PTC= 388.3 TC= 527.9 HEATER TOTAL PRESSURE= 430.	HEATER TOTAL TEMPERATURES 620.	
TEATER TANK E.C.			

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10 AUGUS	1 1973		MSFC TI PLUM	RISCNIC WINE E TECHNOLOGY	TESTNO	WHTSVILLE, QUIESCENT	PHASE		TEST 575	
			*****		-TEMPERATUR	DATADE	GREES FAHREN	HEIY		**************************************
FRAME	PSA	PTC	SKIN[1]	SKIN[2]	Sk14[3]	SKIN(4)	SKIN[5] HOL	FL-STING FE	EBEH-DINE	TCH
1	5.13	746.09	94.5	91.5	92.8	94.1	0.0	496.8	859.2	539.3
2	5.09	746,51	94,5	91,5	93.2	94.9	G • 0	492.0	833,6	550.1
3	5.12	745,46	94,5	92.9	94.1	96.2	0.0	487.3	812.0	557.1
4	5.13	754.93	94.5	91.9	94.1	97.1	0.0	482.1	791.1	561.0
5	5.12	762,30	94.5	92.8	94.1	98.4	0.0	478.2	772.9	565.3
	5,12	762.30	94,5	93,2	94,5	100.1	0.0	474.3	756.9	567.0
FR PTC	TC P47/	PTC PORT-22	NO PSM/PSA	ND PS"/PSA	NO PSH/PSA	NO PSM/PSA	NO PSM/PSA	MO PSM/PSA	NO PSY/PSA	NO PSM/PSA
	2 539.3 0.0		5 0.88471	6 0.90058	11 0.99280	16 C.91720	23 0,96179	29 0.92854	34 0,96933	35 0,96631
	5 550.1 0.0						24 0.97613			
							25 0.93685			
	5 556.6 0.0						26 g.91871			
	4 563.5 <u>0.0</u>						27 0.93307			
	8 565.3 G.B		1 1.43531	16 0022452	13 30000		28 0.93685			
6 763.	9 560.6 0.8	108 4,95	<u></u> ,			ST T-Anit1	. 20 0410002			,
				747 PT 1	8.013 PS	5.120	R/L 5.3	HACH 1	.471 TEMP	154.2
MODEL AT	TITUDE	NDITIONS	ALPHA	-0.02 BET	A 0.00 556.4	ROLL (	0.0	PS4[22]/PSA	= 0.9672 <sup>1</sup>	
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	FRAME	PSA	PTC	SK[N[1]	SKIN[2]	SKIN[3]	SKINE41	EGREES FAHRE Skin[5] Mo	DEL-STING F	EEDER-PIPE	TCH
	1	5.33	1062.36	165.2	98.4	153.2	105.6	٠.9	476.4	960.5	576.6
	5	5.32	1062,36	193.6	98.4	103.2	151.4	0 • ₫	474.3	864.3	583.9
	3	5,30	1068,68	104.0	99,3	103,2	102.3	0.9	473,0	834.1	586.1
	4	5.30	1081,31	104.0	98.8	102.7	103.6	0.0	469.9	805.0	588.3
4	5	5,27	1080.78	104.0	98,4	103.2	104.9	0 • C	468.2	779.9	587.4
	6	5.31	1091.84	103.6	99,3	102,7	187.1	<u>6.0</u>	466,0	758,2	588,3
PAGE 15					<b>n</b>					<u></u> ,	
20	FR PTC	TC P47/	PTC PORT-	22 NO PSH/PS	A №0 PS ./PS	A NO PSM/PSA	NO PSM/PS	A NO PST/PSA	NO PSM/PSA	NO PSY/PSA	NO PSM/PS/
	1 1061.8	577,4 0.0	108 5.0	2 5 0.8643	8 6 0,8614	6 11 8,95621	16 0.9015	5 23 0,92341	29 0,98446	34 0,93799	35 3,9387;
	2 1363.9	583,5 0.0	108 5.0	1 4 0,7630	7 0.9452	8 12 6,93216	17 0,9022	8 24 0.94746	30 0,98945	41 0.83012	36 1,1187
	3 1069.2	586,5 0,0	108 5,0	1 3 0.9547	5 8 p.9576	7 13 0.91685	18 0.9124	8 25 0.51685	31 0.97079	42 0.84543	37 1,0305
		567.8 0.0		6 2 1.2870	9 9 0.9744	3 14 n.91831	19 0.9183	5 <u>1 26 0.8979</u> 0	32 0.99702	39 p.81992	38 1.0167
	5 1081.6							9 27 0.90811			
		586.7 0.0						9 28 0.91758			
							:		· · · · · · · · · · · · · · · · · · ·	<del></del>	
	WIND TUNNE	L TEST CO	NOTTIONS	Q 7.		18.011 PS	5,307 ROLL	R/L 5.3	MACH 1	.445 TEAP	102.5
	AVERAGE ME	IREL /ND771	E PARAMETE	RS. PTC= 10	75.1 TC	:= 585.3	PTC/PSA=		PSM(22)/PSA	E 8.9405	<u> </u>
	HEATER PAR	PAPETERS	• • • • • • • • • •	HEATER	TOTAL PRESS			TOTAL TENTEN	TRIGHE 040		
A								· · · · · · · · · · · · · · · · · · ·			
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10 AUGUST	1973	·· ···	HSFC TR PLUME	RISONIC WIN TECHNOLOG	TUNNEL Y TESTNO	HUNTSVILLE. N-QUIESCENT	PHASE		TEST 575	RUN 20
FRANE	PSA	PTC	SK[W(1)	SK1N(2)	-TEMPERATUR Skin[3]	E DATADE Skin[4]	GREES FAHREN Skin(5) MOD	HEIT	DER-PIPE	TCH
1	5.21	1453.94	95.2	91.9	93,6	93.2	6.0	541.5	838.4	580
2	5,24	1452.36	94.5	93.6	95.4	95.4	0,0	534.5	801.6	586
3	5.23	1503.94	94.1	92.8	94.5	96.7	0.0	527.1	770.8	587
4.	5.24	1497.10	94,1	92.8	94.9	98.4	0.0	521.9	746.1	589
5	5.24	1498.15	94.1	93.6	95.4	100.5	0.0	515.9	724.0	589
6	5,23	1529,20	94,1	94,9	95.4	102.7	0.0	510.2	706.6	569
2 1480.3 3 1503.4 4 1492.4	TC P47/ 580.0 0.0 586.1 0.0 587.8 0.0 589.1 0.0	106 4.94 105 4.95 107 4.95	5 0.83074 4 8.79009 3 0.96673 2 1.28306	6 6.84035 7 6.93273 8 0.95269 9 8.98447	11 0.92387 12 0.93273 13 0.90169 14 0.91278	16 0.93126 17 0.91056 18 0.92313 19 0.90539	A NO PSY/PSA 5 23 0.89282 6 24 0.94752 3 25 0.91943 9 26 0.89800 8 27 0.90834	29 0.90687 3 30 0.95939 4 31 0.95491 4 32 0.99636 3	14 0.94626 11 0.90834 12 0.92756 19 0.96657	35 0.94 36 1.09 37 1.02 38 1.01
6 1532.4	589.6 0.0	105 4,94				21 ú.93120	6 28 0.99208			
NODEL ATT	TTUUË ODFE/NOZZL	NDITIONS	ALPHA PTC= 149	0.00 BET 2.7 TC=	A 0.00 587.0	PTC/PSAs	R/L 5.3 0.0 285.23 TOTAL TEMPERA	SH1221/PSA=		103.6
						<u> </u>				
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	-	_					re man an Tare .			
FRAME	<del> </del>		5411 [1]	SEIN[2]	-15MPERATUR 5 <b>MIMI</b> 31	E BATADEGA SKIMI41 S	KINTEL HOT	.Hcli. EL-STING FEE	CER-PIPE	TCH
· · · · · · · · · · · · · · · · · · ·	- 5.20	1555.94	137	134.8	145.2	124.4	0.0	574.4	779.4	592.6
2	5.22	1631.64	130.6	133.1	143.1	126.2	<u> </u>	564.9	746.5	597.9
— · <del>-</del> /			130,1	131.4	143,9	126,6	0.0	556,2	72û.5	596.9
4		1050.15	135.3	130.1	139.6	127.5	0.0	547.5	700,5	597.5
			134.ĉ	129.6	138.7	129.2	0 • 0	540.6	685.8	598.2
		1699.21	134.0	127.9	137,0	13r.5	0.0	533.2	673.7	597.8
		<u> </u>		·						
FP PTC	fc P47/P1	r PnkT-22						NO PSM/PSA N		
1 1836.0	593,9 0.01	6 5.05	5 0.82473	6 0.85064	11 (,91949	16 0.93060	23 0.89580	29 0.89728 3	4 0.96909 i	4.5 <u>959</u> 7
2 1328.2	596.2 3.01	,6 5,65	4 0.79141	7 8.93652	12 0.93504	17 0.91579	24 0.94392	30 J.93652 4	1 0.96761	36 1,08963
3 1860.5	597.4 <u>0.01</u> (	5 5.04	3 0.96687	8 0.95058	13 0.90246	18 0.92763	25 0.92171	31 0.95503 4	2 0.98908	37 1.02314
	597.8 g.010		2 1,28595	9 0.98464	14 0.91505	19 0.90691	26 0.89210	32 0.98982 3	9 0.96835	38 1.00833
5 1883.4	596 <b>.7</b> 0.01	5.35	1 1,38146	10 0.94170	15 0.92986	20 9.94392	27 0.90765	33 0.99204 4	n a.99797	43 2.97279
	597.4 8.01					21 0.92615	28 0.88914			
HIND TUNNE	L TEST CON	OITIONS	. g 7.7!	53 PT 1	8.009 PS	5.225 R. ROLL 0.	/L 5.3	MACH 1.4	IS6 TEMP	103.0
MODEL ATTI AVERAGE MO MEATER PAR	NEI JAMPTI E	PARAMETERS	PTC# 186	3.3 TC=	597.2	PTC/PSA= 3	56.64	PSN[22]/PSA* LTURE= .658	0.9655	
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					-TE PERATUR	DATADE	GREES FAHRE	HEIT		
FRAME	-5a	PIC	5 1 1 (1)	9-Intel	5417[3]	SKINIAL	SKINIST HO	EL-STING FE	EDEP-PIPE	†CH
1	5.15	1781.74	1,2.3	100.6	102.7	99.3	0+0	543.6	625.1	592.
=	= .12	1005,90	102.3	100.1	ئ.2°1	160.1	0.0	535.8	785.1	5y7.
3	5.12	1816.00	102,3	99,3	161.9	1,5.3	5.0	528,9	753,4	596,
4	5.15	1810.62	152.7	101.4	103.2	104.9	0.0	523.2	728.3	597.
<u> </u>	5.11	1856.51	102.3	160-1	102.7	166.7	0.0	516.3	707.9	597.
3	5.12	1838.62	102.3	101.4	193.2	159.3	<u>0.5</u>	511.1	693.2	596.
FR PTC	1c P47/	PTC FCHT-22					L -n PSM/PSA			
1 1791.3	393.1 B.D	1 <sub>0</sub> 5 5,6r	5 r.98388	6 0.92047	11 0.95967	15 0.96947	23 0.93931	29 1.06672	34 1.09667	35 6.921
2 18r2.c	595.9 0.0	165 5,59	4 0.81794	7 0.97248	12 0,93253	17 0.97324	4 24 0.96419	30 1.07124	41 1.08858	36 1.185
3 1019.7	590.9 0.0	165 5.28	3 1.02375	b g.98832	1392273	18 0.98153	3 25 0.94911	31 1.09461	42 1.09536	37 1.987
4 1325.5	59:.7 0.0	185 5.60	2 1,39614	9 1.30716	14 0.998 <u>12</u>	19 1.65767	7 26 n.93253	32 1.08556	39 1.:7802	38 1.177
5 1350.2	597.4 0.0	103 5,60	1 1,47682	10 0.98379	15 1.01018	20 1.0539	27 g. <b>956</b> 6=	33 1.08783	40 1.09159	43 1.026
6 1=32.6	595 <b>,</b> 5 0 <b>,</b> 0	185 5,60				21 1.10139	9 28 0.95741			_,
WIND TURNE	L TEST CO	NOTTIONS	3 7.7	46 PT 1	16.NU9 PS	5.131	R/L 5.2	HACH 1	469 TEMP	106.7
4345404	tu-i /unzzi	E PARAPETERS	PTC= 162	-0.52 9E1 2.0 TC: DTAL PRESSU	596.6	PTC/PSA=		PSKI221/PSA: . GEO = BRUTA	1.0906	
									· · · · · · · · · · · · · · · · · · ·	
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	FRANE	-5A_	eTe	5512 (1 <u>1</u>	2KINIS]	15-00-00 to	541°:[4]	GREES APRE	\#E17 JEL-S71'3 FF	<u> </u>	TCH
	****	1.22	422.55	7:.2	71.5	75.4	77.5	J • t)	566.0	780.9	515.7
	۷		73	71,1	7-,7_	75,4	72.1	<u> 1.</u> J			526.9
	4	1.72	425.48	72.6	69.4	75.:	72.4	8 • 0	565.3	752.0	535.4
		1.21	454.65	72.5	71.1	75. i	73.3	ũ • ũ	562.3	741.5	539.3
		1.2/	4 2.41	72,0	71.1	75.9	74,1	0.0	551.6	7_3.0	544.1
TO SEE IS		1.72	3		71.2	75	74,6	0.0	559.2	717.19	546.7
									ND C4/ C4		
20	FR TC	15 47/	TC ORT-						NO SM/ SA P. P		
	1 421.	51¢ 7 0 0	138 1.1						29 0.92394		
	2 424.4	529.3 0.0	136 1.1	7 4 9.7794	10 7 0.8976	55 <u>12 0.992</u> 7	1 17 0.97297	7 24 0.97297	30 0.94113	41 0.58455	36 J.9922
	3 424.4	535,4 0.0	10 1.1						31 0.93859		
	4 438 - 2	534.7 0.0	105 1.1						32 0,93286		
	5 435.5	544.1	1 4 1.1	7 1 2.677	58 1 ,971	7 15 1 . 16	3 2 ,9984	99844	33 .9354 0 0	4 ,62848 0 C	43 6 35
	6 433.9	0 0 546.7		7	Q D	<b>3</b> 0u		7 28 .97552			
			0				0 0	<u> </u>		<u></u>	
	HODEL ATT	TTUGE	E DADAMETS	ALPHA	428.4 T	C* 535.3	POLL PTC/PSA=	R/L 10,7 0.0 352,60	PSM1221/PSA	= 0.9659	191,0
	HEATER PA	INAMETERS.		HEATER	TOTAL PRES	SUPE= 470.	HEATER	101VF- 16MAF	ATURE - 410.		
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	ID A	JGUST 1	973				MSFC PLU	TRISON ME TEC	NIC AIN Chnolog	D TUNNEL Y TEST!	HUNTSVILL 10/+QUIESCE	E, ALA Ny Pha	BAMA Se	'.		TES:		RUN 21.	
												-							
	FRA		PSA	P		SKI	M[1]	Shi		-TEMPERATO SKIN[3]	JRE DATA SKIN[4]	DEGREE SKI	S FAHRE	NHEIT-	ING FFE	DER-P	IPE	TCH	
······································									(4.D	115.3	118.9		5.0		2.7		5.1	552	.7
<del> </del>		1	1.22		2.32		05.8								3.2		5.2	561	. n
1.1.		2	1.21	78	19,16		05.3		04.0	114.5	117.5		0.0					565	
<u> </u>		3	1.22	7	0.22	10	05.3	11	03.2	113.6	117.5		0.0		1.4		6,6		
<u> </u>		4	1,22	60	1.27		05.8	1	51 <b>.</b> 4	111,9	117.5		0,0	55	0.1	71	0.1	566	
- 1 - 1		5	1.21	80	1.80	1	05.8	1	01.9	111.4	118.4	<u>:</u>	0.0	54	8.0	69	4.0	56 <u>6</u>	.6
1111	:	6	1.22	80	18,64	1	05.3	11	00,6	111	117.9		0.0	541	7.5	68	2.3	567	9.
					• •	-			· .								. i p i - 2, i	<u> </u>	<u> </u>
										·.				after star Service sign					
	FR	PTC	TC P47	ZPTC	P0RT-22	2 NO 1	PSM/PS	A NO I	PSH/PSA	NO PSM/P	SA NO PSH/P	SA NO	PS~/PS	NO PS	H/PSA	10 PSM	/PSA	NO PSM/	PS/
	19 7.1	780.2 5						20 PM	and the second second		28 16 0.977	1.5				. 12.	147		
		. 33 53.	444			447	T13 (0×1)	:		4.4	48 17 9.991		25.5	The second second		1,1	11.0	A STATE OF THE STA	
	10.0	787.6 5		-	1.17	100	2.3	Programme and the	41	Market St. Barrier		10 miles (1971)		100	1.0		44.4		
- 454 <u>1</u> - 45 1	3	790.7 5	65.7 Q.	0108	4 1 ATT 4	3	1,4756	7 8	<u>8.91991</u>	13 0.993	75 18 0.996	30 25	0.40430	1 31 60	20404 4	12 U./	7770	37 0174	12.
		4 COM 14 CO	5.47	NG 1 1	N	10.7	333		題 二共進行 4	4.30	- 440 - 15 - 1	100	2.02.2.2	_11 13			1000	00	4 7
	4	863.9 5	65.7 0.	0107			10.00	Control of the	40 (4) (4)	16 (17)	47 19 1.021		: 17°::	- 13- +		. 157	2510	, fi 14	
	holds.	863.9 5 801.8 5	thei .				10.00	Control of the	40 (4) (4)	16 (17)	47 19 1.021 03 20 0.998		: 17°::	- 13- +		. 157	2510	, fi 14	
	5		67.5 Q.	0108		1_	10.00	Control of the	40 (4) (4)	16 (17)	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	21 27	1.0013	9 33 D.		. 157	2510	, fi 14	
	5	801.9 5	67.5 Q.	0108	1,17	1_	10.00	Control of the	40 (4) (4)	16 (17)	<u>03 20 0.998</u>	21 27	1.0013	9 33 D.		. 157	2510	, fi 14	
	5 6	801.9 5 806.0 5	67.5 Q. 57.5 Q. TEST Q	.0108 .0108	1,17 1,17		2.6858	9 1c	g.97338 PT 9	15 1.002	03 20 0.998 21 0.989 S 1.215	21 27 94 28 F/L	1.0013	9 33 <u>0.</u>	93646 4	ιο g.7	2510 #367	, fi 14	
	6 6 HIND HODE	801.9 5 806.0 5 TUNNEL	67.5 g.	.0108 .0108 .CONDIT	1.17 1.17	9	2.6858 10. LPHA	19 16 297 0.0	9,97338 PT 9 0 8E7	0.086 P	21 0.989 21 0.989 S 1.215 ROLL PTC/PSA=	21 27 94 28 8/L 0.0 654.	1.0013 <sup>5</sup> 0.9797 <u>5</u> 10.7	9 33 0. 5 MACH PSM(22	93646 4 3.4 1/PSA=	ι <sub>α 3</sub> .7	2510 #367 TENP	43 g.74	
	6 6 HIND HODE	801.9 5 806.0 5 TUNNEL	67.5 g.	.0108 .0108 .CONDIT	1.17 1.17	9	2.6858 10. LPHA	19 16 297 0.0	9,97338 PT 9 0 8E7	15 1.002 0.086 A 0.00	21 0.989 21 0.989 S 1.215 ROLL PTC/PSA=	21 27 94 28 8/L 0.0 654.	1.0013 <sup>5</sup> 0.9797 <u>5</u> 10.7	9 33 0. 5 MACH	93646 4 3.4 1/PSA=	ι <sub>α 3</sub> .7	2510 #367 TENP	43 g.74	
	6 6 HIND HODE	801.9 5 806.0 5 TUNNEL	67.5 g.	.0108 .0108 .CONDIT	1.17 1.17	9	2.6858 10. LPHA	19 16 297 0.0	9,97338 PT 9 0 8E7	0.086 P	21 0.989 21 0.989 S 1.215 PTC/PSA= HEATEH	21 27 94 28 8/L 0.0 654.	1.0013 <sup>5</sup> 0.9797 <u>5</u> 10.7	9 33 0. 5 MACH PSM(22	93646 4 3.4 1/PSA=	ι <sub>α 3</sub> .7	2510 #367 TENP	43 g.74	
	6 6 HIND HODE	801.9 5 806.0 5 TUNNEL	67.5 g.	.0108 .0108 .CONDIT	1.17 1.17	9	2.6858 10. LPHA	19 16 297 0.0	9,97338 PT 9 0 8E7	0.086 P	21 0.989 21 0.989 S 1.215 ROLL PTC/PSA=	21 27 94 28 8/L 0.0 654.	1.0013 <sup>5</sup> 0.9797 <u>5</u> 10.7	9 33 0. 5 MACH PSM(22	93646 4 3.4 1/PSA=	ι <sub>α 3</sub> .7	2510 #367 TENP	43 g.74	
	6 6 HIND HODE	801.9 5 806.0 5 TUNNEL	67.5 g.	.0108 .0108 .CONDIT	1.17 1.17	9	2.6858 10. LPHA	19 16 297 0.0	9,97338 PT 9 0 8E7	0.086 P	21 0.989 21 0.989 S 1.215 PTC/PSA= HEATEH	21 27 94 28 8/L 0.0 654.	1.0013 <sup>5</sup> 0.9797 <u>5</u> 10.7	9 33 0. 5 MACH PSM(22	93646 4 3.4 1/PSA=	ι <sub>α 3</sub> .7	2510 #367 TENP	43 g.74	
	6 6 HIND HODE	801.9 5 806.0 5 TUNNEL	67.5 g.	.0108 .0108 .CONDIT	1.17 1.17	9	2.6858 10. LPHA	19 16 297 0.0	9,97338 PT 9 0 8E7 TC= PRESSU	0.086 P	21 0.989 21 0.989 S 1.215 PTC/PSA= HEATEH	21 27 94 28 8/L 0.0 654.	1.0013 <sup>5</sup> 0.9797 <u>5</u> 10.7	9 33 0. 5 MACH PSM(22	93646 4 3.4 1/PSA=	ι <sub>α 3</sub> .7	2510 #367 TENP	43 g.74	
	6 6 HIND HODE	801.9 5 806.0 5 TUNNEL	67.5 g.	.0108 .0108 .CONDIT	1.17 1.17	9	2.6858 10. LPHA	19 16 297 0.0	9,97338 PT 9 0 8E7 TC= PRESSU	0.086 P A 0.00 563.2 RE= 860.	21 0.989 21 0.989 S 1.215 PTC/PSA= HEATEH	21 27 94 28 8/L 0.0 654.	1.0013 <sup>5</sup> 0.9797 <u>5</u> 10.7	9 33 0. 5 MACH PSM(22	93646 4 3.4 1/PSA=	ι <sub>α 3</sub> .7	2510 #367 TENP	43 g.74	
	6 6 HIND HODE	801.9 5 806.0 5 TUNNEL	67.5 g.	.0108 .0108 .CONDIT	1.17 1.17	9	2.6856 10. LPHA YC: EATER	297 0.0 707AL	9,97338 PT 9 0 8E7 TC= PRESSU	0.086 P A 0.00 563.2 RE= 860.	21 0.989 21 0.989 S 1.215 PTC/PSA= HEATEH	21 27 94 28 8/L 0.0 654.	1.0013 <sup>5</sup> 0.9797 <u>5</u> 10.7	9 33 0. 5 MACH PSM(22	93646 4 3.4 1/PSA=	ι <sub>α 3</sub> .7	2510 #367 TENP	43 g.74	
	6 6 HIND HODE	801.9 5 806.0 5 TUNNEL	67.5 g.	.0108 .0108 .CONDIT	1.17 1.17	9	2.6856 10. LPHA YC: EATER	297 0.0 95.0 70TAL	9,97338 PT 9 0 8E7 TC= PRESSU	0.086 P A 0.00 563.2 RE= 860.	21 0.989 21 0.989 S 1.215 PTC/PSA= HEATEH	94 28 94 28 8/L 0.0 654.	1.0013 <sup>5</sup> 0.9797 <u>5</u> 10.7	9 33 0. 5 MACH PSM(22	93646 4 3.4 1/PSA=	ι <sub>α 3</sub> .7	2510 #367 TENP	43 g.74	

<u>-</u> -	1978		PLUI	ME TECHNOLO	BY TESTNI	N-GUIESCENT	PHASE			
					TEMPERATU	F DATADE	GREES FAHRE	WHEIT		
FRAME	PSA	PTC	SKIN[1]	SKIN[2]	ZKIN(3)	SKIN141	SKIN[5] HO	EL-STING FEE	DER-PIPE	TCH
	1.21	1178.11	104.9	180.1	102.7	61.1	8 + 0	539.3	763.0	558.6
1		1174,43	104.9	101.0	102.7	81.5	G • 0	540.1	734,6	565.
2	1,21		104.5	99.7	101.4	82.4	0.0	538.4	710.1	567.0
3	1.21	1181,27		99.7	101.4	84.1	0.6	539.3	691.4	566.6
4	1,21.	1191,80	104,9			85.4	0 . 0	536.7	672.8	565.7
5	1,21	1200.22	104.9	98,0	100-1		0.0	535.4	658.1	564.9
	1.21	1201.27	34.5	97.5	100,1	88,9	<b>U-0</b>			
								<u>:-</u> _		
FR PTC	TC 947/	PTC PORT-2	2 NO PSM/PS	A NO PSM/PS	A NO PSM/PS	A NO PSM/PS	A NO PSM/PSA	NO PSH/PSA	NO PSM/PSA !	NO PSM/PS
			5 0.8394	.B 6 n.8649	6 11 0.9426	7 16 0.9732	4 23 0.94458	29 0.92101	34 0.92738	35 0.7235
	558.4 0.0		2004	7 0 8935	n 42 n 994 n	8 17 A <b>.9917</b>	1 24 0.97643	30 0.93948	41 0.82038	36 p.8987
2 1168,6	566.2 0.0	108 1.19	4 8.7904	7 0.0020	12 002210		0+000	7 n 01048	42 N.85685	37 6.9420
3 8 .3	560.6 O.		3 .4827	79 8 0.9 84	17 3 D.9942	6 8 0.9955 1	3 25 0,96960	3 0.93948 1		
11 1 4 1190 <u>.2</u>	56c.6 0.0	1 1 1 107 1.19	2 2.5891	5 9 <b>0.9</b> 841	7 14 0.9624	1 19 1.0261	<u>1 26 0.98343</u>	32 0.93311	39 0.82229	30 0.7717
	566.2 3.1		1 2.6961	16 10 0.973	38 15 1.0044	5 20 0.9968	1 27 1.00254	33 G.93757	4n n.89426	43 0.8343
	565.7 0.1						7 28 0.98216			<del></del>
<u> </u>	963.8 01	0,000								
						1.215	R/L 10.7	MACH 3.	488 TENP	101.0
WIND TUNK	FL TEST C	ZNCITIONS	G 10	19 6 17 12 12 12 12 12	- 17 010	POLL	0.0	P54[22]/F54=		
			ic otre i'	186.4 T	C= 564.9	PTC/PSA=	776.85	PATURE= 625.	7,370,	
HEATER PA	PAMETERS.	LE PARAMETER	HEATER	IUTAL PHES						
<u> </u>				·						
	<u></u>						-			<u></u>
	<del></del>						·,			

		070	SKINII	S- [N(2)	-TEMPERATURE	DATADE	GREES FAHRE Skin <b>i5) mo</b>	NHEIT DEL-STING FE	EDEP-PIPE	TCH
FRAME	PSA	PTC	127,5	120.1	128.3	127.9	0.0	584.8	774.2	563.
1	1.21	1163.98	127.5	117.9	125.7	127.5	0.0	582,6	745.2	569,
2	1,21	1157.06	127.5	116.6	125.7	126.6	0.0	582,2	721,4	573,
3	1.21	1171,27	126.6	116.6	124.9	127.0	0.0	577,9	699.2	571
<u> </u>	1,21		125.7	115.8	122.7	127.0	0.0	574.8	682.5	571
5	1.22	1191.80	126.6	117.1	123,6	127.9	0.0	571.4	o60.3	570
6	1.22	1180,22	120,0							
								WO BEW/254	UP Dem/PeA	NO PSH/
FR PTC	10 P47/	PTC PORT-2	2 NO PSM/PSA	NO PSM/PS/	NO PSM/PSA	NO PSM/PSA	A0 PSY/PSA	PU PSH7-54	34 0 02844	35 n.72
1 1169.	2 563.1 0.0	108 1.18	5 0.84120	6 0,8679	11 0.95137	16 0.98130	23 0.94818	24 0.45020	34 9.92044	32 33.2
2 1158.	6 569.2 0.4	198 1.18	4 0.79089	7 0.88578	12 0.99467	17 1.00613	24 8.97747	30 8,94245	41 0.82783	36 0.90
3 1169.	2 573.5 G.C	1.18	3 1.48436	8 0,9252	5 13 G.99785	18 1.00231	25 0.99085	31 0.94161	42 0.66413	37 0.94
4 1166.	1 572.2 0.0	1.16	2 2,56499	9 0.9870	3 14 0.96983	19 1.03351	26 0.98575	32 0.9360 <u>6</u>	39 6.82783	38 0.99
5 1191.	571.8 D.	1.16	1 2.69936	10 0.9787	5 15 1.m;740	20 1.00422	27 1.00295	33 G.93927	40 0.89533	43 0.84
	2 571.8 0.0				<del></del>	21 0.99721	28 0.98257	<u> </u>		
			0 10 2		90.061 PS	1.215	R/L 10.7	MACH 3	.480 TEMP	P 101.1
HODEL AT	TITULE		Q 10.2 ALPHA RS PTC= 117 HEATER	0,00 BE	TA 0.00 = 570.3	DTC/DCA=	0.0 -965.45 TOTAL TEMPE	PSM[22]/PSA	= 0.96E7	
HEATER P	AHAMETERS.						<u> </u>			
				<del></del>						
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		<b>S</b> <u>A</u>	FTC			5613121	94[1[3]	5 DATS=====E 54[v[4]	GREES FAMAE SKIN(5) 101	HEIT EL-STING F		TOH
્રેન	a F	_	F -					337.3	·	465.2	710.6	590.0
	<u> </u>		115		ec. 2	791.9	312.9				79:	591,7
	٠.	1.71	1145.5	<u>.</u>	2cr. <u>-7</u>	254.4	3^7.	324.7	. <b>?•0</b>			592.2
	۶ <u> </u>	1 • 22	1150.2	2	286.3	283.5	301.7	320.4	0.0	475.1	657,1	
	4	1.22	1159,1	6	265.7	277.0	298.3	315.0	<u>0.0</u>	479, 0	575.d	590.0
	2	1.22	1175.5	<u> </u>	283,5	272,7	293,→	312.1	0.0	482.1	655.3	589,1
		1,21	1177,5	9	281,6	268,5	290.0	307.A	0.8	486.8	65 <u>8</u> .1	589.6
·			<u> </u>									
	CTC	TC 9474		T+22	10 PSV/PSA	NO PSM/PS	SA NO PSM/PS	NO PSM/PSA	NO PSM/PSA	NO PSM/PSA	NO PSY/PSA	AZ PSM/PSA
				. J. L. G. S	E 0 81706	6.0.569	82 11 0.9710	16 0.98698	23 0.94686	29 8.93222	34 0.92394	35 0.70171
		589.1 0.0			3 0.60775	7 0 884	46 12 n.99591	17 1.02646	24 n.97998	30 g.94368	41 0.87364	36 0.88828
\$_	1145.5	592.2 1.1	1091	.16	4 6.78513	/ 0.004	40 12 0.777	40 4 00467	25 n 99781	31 0.94241	42 0.90356	37 0.94050
3	1150.7	592.2 3.0	<u>: 191</u>	.16	3 1,46328	8 g.943	68 13 1.0616	10 0.77020		70 a 0754s	TC 1 FAG1R	38 0.99398
4	1159.2	593.0 0.0	169 1	.16	2 2.54577	9 0.988	89 14 c.9838	19 1,0003	26 0.99144	32 9.73270	33 3.0032.	47 0 87656
<u>5</u>	1175.0	54+1 0.0	168 1	.16	1 2,56803	16 3.983	80 15 1.0054				40 0.92394	43 0 00, 222
6	1178.6	589.6 0.0	169 1	.16				21 0.99271	28 0.97616			
MI	ab Tilbin	EL TEST CO	LDITIONS	S	. 0 10.2	95 PT			R/L 10.6	MACH 3	486 TEHP	102.7
MOI	EL ATT	1700E	C 04044	7000	. ДЕРНА РТП= 116	1.3 T	ETA 0.00 C= 590.4 SURE= 1300.	DTC/DSAE	0.0 955.86 Total—Temper	PSM[22]/PSA ATURE= 425.	= 0.9540	
			<del></del>				<del> </del>				··· · · · · · · · · · · · · · · · · ·	
	··· <del>·</del>		<del> </del>			•						
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			-		-						+	
					<del></del>						- [ / ] - [	

	6 406451					PLUM	TECH	OLOGY	TESTE NO	HUNTSVILL N- JIESCER	T PHAS	E			E	RU11 2	13/0
								<del> </del>		C							
- 1	FRANC	PSA		PTC	SKI	(1)	5814[2		kivig) b cabe via	SKIN[4]			NHETT DEL-STIN			TC	H
	1	1.7	1	524.09		99.3	97.	1	105.0	95.6		0 • G	593.	<u>u</u>	725,3	55	6.2
	<u>_</u>	1.		494.95		99.3	98.	0	105.8	96.7		0.0	589.	6	697.5	56	0.5
· ·	2 3			523.38		99.7	97	.1	104.9	97.5		0 . 0	584.	8	674.5	56	0.5
	4	1 2	1 1	519 17	·	99 3	95	4:	162 7	98 -		0 0	579	6	654 6	55	9 7
	5	1.2	1 1	540.22		99.3	. 95	. 8	104.0	99.3	····	G . C	576.	1	640.3	56	1.4
	6	1.2	11	552.32		99.7	95.	4	102.7	101.4		0.0	571.	4	629,9	56	0,5
•	·	<del></del>	<u>.</u>	<del></del>	<u>:</u> -et					· · · · · · · · · · · · · · · · · · ·				· · · · · · · · · · · · · · · · · · ·		· · ·	
E	R PTC	ic P	47/PTC	PORT-2	2 NO I	PSH/PSA	NU PS:	I/PSA N	C PSE/PSA	NG PSH/PS	A NO P	SM/PSA	NO PSM/	PSA NO	PSH/PSA	NO PSM	<u> </u>
	1 1508.0	556,2	0.0105	1,19	5	0.84470	6.0,6	6508 1	1 0.94344	16 0,9740	1 23 0	94598	29 0.92	305 34	0,92942	35 ú.7	2303
:	2 1495.5	5 561.0	0.0107	1.19	4 (	0.79565	7 0.8	8419 1	2 0.99121	17 0.9950	4 24 0	97975	30 0 94	68 <b>9 41</b>	0.89864	36 (J.8	9884
	3 1513.4	561.ii	3.0106	1.19						18 0.9969							
	4 1522.3			7. ·						19 1.0268		- 11					
	5 1538,0	561.	3.01:6	1,19	_ 1 3	2,68507	10 0.9	7 65 1	5 1.00395	20 0.9975	8 27 1	. ეც395	33 0.93	775 n	6.97338	3 0.9	090_
	6 1548.1	4 560.1	0.0196	1.19				4		21 0.9905	8 28 0	98484	· · · · · · · · · · · · · · · · · · ·	4		4	4
							:	* .									
<del></del>							<del></del>										
W	IN TUNK	IEL TEST	CON I	TIONS	0	10.29	)1 PI	90.	927 PS	1,214	R/L	10.6	NACH	3.48	i TEMP	101.5	
Mi A	ODDL ATT VERAGE	TTUUE	LEP	APAMETER	5 P	ГРНА 7C= 1521	2.19 1.1	BETA TC=	0.00 559.9	ROLL PTC/PSA=	0.0 1252.5	6 I	SM[22]/	PSA= 0		101.5	
Mi A	ODDL ATT VERAGE	TTUUE	LEP		5 P	ГРНА 7C= 1521	2.19 1.1	BETA TC=	0.00 559.9	ROLL PTC/PSA=	0.0 1252.5	6 I	· ··· <del>· · · · · · · · · · · · · · · · </del>	PSA= 0		101.5	
Mi A	ODDL ATT VERAGE	TTUUE	LEP	APAMETER	5 P	ГРНА 7C= 1521	2.19 1.1	BETA TC=	0.00 559.9	ROLL PTC/PSA=	0.0 1252.5	6 I	SM[22]/	PSA= 0		101.5	
Mi A	ODDL ATT VERAGE	TTUUE	LEP	APAMETER	5 P	ГРНА 7C= 1521	2.19 1.1	BETA TC=	0.00 559.9	ROLL PTC/PSA=	0.0 1252.5	6 I	SM[22]/	PSA= 0		101.5	
Mi A	ODDL ATT VERAGE	TTUUE	LEP	APAMETER	5 P	ГРНА 7C= 1521	2.19 1.1	BETA TC=	0.00 559.9	ROLL PTC/PSA=	0.0 1252.5	6 I	SM[22]/	PSA= 0		101.5	
Mi A	ODDL ATT VERAGE	TTUUE	LEP	APAMETER	5 P	ГРНА 7C= 1521	2.19 1.1	BETA TC=	0.00 559.9	ROLL PTC/PSA=	0.0 1252.5	6 I	SM[22]/	PSA= 0		101.5	
Mi A	ODDL ATT VERAGE	TTUUE	LEP	APAMETER	5 P	ГРНА 7C= 1521	2.19 1.1	BETA TC=	0.00 559.9	ROLL PTC/PSA=	0.0 1252.5	6 I	SM[22]/	PSA= 0		101.5	
Mi A	ODDL ATT VERAGE	TTUUE	LEP	APAMETER	5 P	ГРНА 7C= 1521	2.19 1.1	BETA TC=	0.00 559.9	ROLL PTC/PSA=	0.0 1252.5	6 I	SM[22]/	PSA= 0		101.5	

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reet 5	<del>7</del> 5	311	714	7:

	FRAME	PSA	PTC	SKINE11	SKINE J	SKIN[3]	SKIN[4]	EGREES FAHRE SKIN[5] HO	DEL-STING FE	EDER-PIPE	73-
	1	1,21	1794.95	85.0	82.8	86.7	85.4	8.0	557.1	736,1	556.£
<del> </del>	2	1.21	1817.06	85.0	80.6	85.8	85.1	0.0	557.1	701.4	561.1
1.	3	1.21	18 9.17	85.4	6 .6	F5.4	85		554.9	674.5	561.4
		1.21	C	85.4	0 82.4	ē <b>5.</b> 8	37,6_	0.0	550.1	652.0	555.4
			1844,95	85.8	81.1	85.4	88.9	0.0	547.5	636.4	557.9
			1861.67	86.7_	82.8	86.	91.5	3.0	546.2	626.0	555.6
		1,61	1001.00	0017	72,5	3	:			·	· .

, i	FR PTC 10 P47/P10	P RT-22 N	PSM/PSA * PSM/F	SA - PSH/PSA	P. ESMIPSA N	PSM/PSA N PSM/PS	A N PSM/PSA . PSM/PSA
	1 1797.6 557.1 0.0105	0 0 1.20 5	0 0.84657 6 6.866	32 <u>11 0.94467</u>	0 16 0.97970 23	n.94722 29 n.9265	33 34 n.93639 35 n.72673
	2 101 .7 561.0 0.0104	1,20 4	0.7 752 7 0.888	61 12 0. 6 0	17 1,0000 24	0, 8161 30 0, 433	41 0, 5231 36 0, 0708
	3 1812.c 561.0 0.0105	1.20 3	9 1.49567 8 0.921	99 9 10 13 1.00072	18 1,00263 25	0.99499 31 0.9453	30 42 1.00263 37 U.95295
	4 1230.7 557.2 0.0165	1.20 2	2.60723 9 g.989	89 14 n,96951	19 1.03136 26	0.99053 32 0.9383	10 39 n.96695 38 g.99499
	5 1946.5 557.9 9.3105	1,20 1	2.71297 10 6.977	15 15 1.01728	20 1.57327 27	1.00837 33 0.9402	21 42 1.03512 43 6.96696
	6 1860.7 558.8 0.0104	1.20			21 0.99563 28	0,99053	

1.214 R/L 10.6 HACH 3.480 TEMP 101.4 HIND TUNNEL LEST CONDITIONS..... 3 10.291 PT 90.031 PS

HODEL ATTITUSE...... ALPHA 0.00 BETA 0.00

AVERAGE MODEL/NOZZLE PARAMETERS... PT = 1628.0 T = 559.2

HEATER PARAMETERS..... HEBTER TOTAL PRESSURE= 2025. FüLL 5.0. PT /PSA= 1505.23 PSH[22]/PSA= BEATER TOTAL TEMPERATURE= 630. PSH[22]/PSA= 0.9847

الراب المعادلات المحادث المستقدم الأعداد المستقدم المستقدات

	0A	AUGUST	1973		₩ŞFC Ţ PLUP	RISCNIC WIN	TUNNEL NO	MUNTSVILLF.	ALABAMA BEANG	ه هما دروان سوستان سا	TEST 575	RUN 2157
	· · · · · · · · · · · · · · · · · · ·	. w						PE DATADE	GREES FAHRE	NHEIT		TCH
	FR 	4%F	peğ	PTC	SKIM[1]	SKIN[2]	SK[N[3]	95.8	0.0	271.8	533.6	108.4
	<u> </u>	1	10.58	10.25	92.3	94.5	96.2			264.0	532.8	107.5
		S	10.59	10.25	91.5	94.1	95.4	94.9	0.0		532.3	107.5
		3	10.58	10.25	91.9	94.1	94.9	94.5	0.0	256.2		106.2
		4	10.59	10.25	92.9	94.5	97.1	94.9	0.0	247.5	531.9	
<del></del>	·········	5	10.57	10.25	92.8	92.8	94.1	94.1	0.0	241.0	531.0	135.6
		6	10.58	10.25	92.3	92.3	94.1	94.1	0 • 6	234.5	531.0	105.
										ing single section of the section of		. · . · · ·
	FR	PTC	TC P47/PTC	PORT-22	NO PSM/PS4	ND PSH/PSA	NO PSH/PSA	NO PSHIPSA	NO PSM/PS4	NO PSMIPSA	NO PŠM/PSA	NO PSH/P
<del></del> -	1	9.7	109.7 0.9884	9.98	5 0.99706	6 0.99390	11 0.96196	16 0.97733	23 n.96381	29 1.00729	34 0.93385	35 1.037
<del></del>	. ,	10.3	109.3 0.9396	10.02	4 0.05285	7 0.97513	12 n.96892	7 1 01642	24 0.96564	30 0.99523	41 0.91412	36 1.021
		10.8	104.3 0.8918	10.00	3 6.88097	8 0.98756	13 0.97331	18 0.99540	25 0.95669	31 0.98756	42 1.89731	37 1.021
<del></del>	4	10.3	148.0 0.9357	10.01	2 1.08036	9 0.97660	14 0.97660	19 0.98902	26 0.97842	32 0.97842	39 0.94043	38 0.921
	5	10.3	147.5 0.9366	9.98	1 1.15051	10 0.96637	15 n.98391	70 0.98135	27 0.98646	33 n.966no	4ñ n.91847	43 0.901
			187.1 0.9376	•		•	- · · -		28 0.98792			
	<u>.</u> .			* .				to the same to the first		. Land Market Comment		
		in 'Taissar	eu test gakāt	TIONS		: 63 Pt 1	7.996 PS	10.587	8/1 5.1	HACH 0.	905 TEMP	100.7
	MOD	FL ATT	TUPE	ARAMETER	ALPHA	0.00 BET	108.5	ROLL 0	. B n . 97	PSM[22]/PSA= ATURE= 0.	0.9441	
											<b></b>	
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## PLUME TECHNOLOGY TEST...xGx=GUTESCENT PHASE

TCH	EEVEN-DIAF	OGFL-STING FE	SKIN[5]	SK[-[4]	17-FE74TU SM11(3)	SK1*[2]	5×!^{:}	P1C	-SA	FRAME
140	543.2	153.4		114.9				·		PRATE
140.			0.0	12-49	1 8 →	1 4. 7	114.9	~.73	11.64	1
140.	542.0	191.6	0.0	134.0	1:7.5	104.0	194.0	10.26	10.65	
140.	541.0	178.6	0.0	133.2	406 3					-
140.				1,300	196.2	101.9	164.0	9.73	17.64	3
1484	541.5	177.3	9.0	102.7	105.6	101.9	104.0	10.26	10.65	
138.	541.5	175.6	3.3	102.7	- 455 8					7
—— <u>138</u> .			V •	1024	105.8	103.6	154.5	10.26	10.64	5
130.	549.6	173.4	0 + 0	161.9	104.5	101.9	194.0	10.26	10.65	6

	FR	PTC	YC P	47/PTC	PORT-22	<b>40</b>	PSP/PSA	NG	PSM/PSA	۸C	PSM/PSA	NO	PSM/PSA	NO	PSM/PS	· NG	PSM/PS	4 40 P	SM/FSA	NO PS1	M/PSA
<del> </del>	1	10.3	142,2	0.9435	10.05	5	G.99617	6	G.98455	11	0.95695	16	0.97511	23	0.96167	7 29	1.0015	2 3 4 0	,93697	37 1.	93321
	2	10.3	141.6	0.9435	10.05	4	0.95077	7	0.97474	12	0.96276	17	1.00416	24	0.96094	4 30	0.9889	1 41 9	,91482	36 1.	01071
	3	10.3	142.6	3.9474	10.93	3	0.88141	. 8	0.98527	13	0.96821	18	0,98927	25	0.9515	c 31	0.9831	0 42 0	.89//? 	3/ 1.	01/23 D:CEA
	4	10.3	140.9	0,9445	10.03	5	1.07788	9	0.97436	14	0.97111	19	0.98455	26	0.9729	3 32	0.9729	5 39 0	, 43027 - <del>6241</del> 7	30 U+	71727
	5	10.3	146.5	0.9445	10.05	1	1,15669	10	0.96566	15	0.97837	50	0.97801	27	0.9841	9 33	0.9634	U 49 B	*419/9		
	6	10.5	140.0	0.8974	10,06							21	0.96603	26	0.9860	0					

 MIND TUNNEL TEST CONDITIONS Q. 6.035 PT	18.011 PS 10	0-651R/L5-1 MACH	0+2001205. Tines.
MODEL ATTITUDE ALPHA 0.00 BI			DC4= 0 0425
 AUCHARE MODEL /MOZZI & DADAMFTERS PTC= 10.0	A- 44440	C/PSA= 0.97 PSM(22)/	75_
HEATER PARAMETERS HEATER TOTAL PRES	SURG= 0. H	HEATER TOTAL TEMPERATURES	770

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	08. AU(	EUST.	1973			MSEC T PLUM	RISON E TEC	HNOLOG	ID TUN SY TES	NEL !	H <u>UNTSY</u> Y-OUIE	SCENT	ALA Pha	B <u>ama</u> Se			IES	J _ <b>5</b> 75	Sha	216/
		-		, <del></del>					TEMP	EDATUR	E DATA	DE	GREE	S FAHRE	NHE 11					
	FRAM		PSA	PTC	SKIN	[1]	SKI	(12)	SKIN	(3)	SKINI	43	SĸI	N[5] MO	DFL-9	STING F	EEDER	-PIPE	· ,	CH
		•	7.42	6.57		5.8	9	3.6	9	4.5	94	. 9		0.0	- 1	52.6		496.4	• • • • • • • • • • • • • • • • • • • •	03.6
		<b>.</b>	7.41	6.57	9	5.4	(	1.9	9	3.2	93	3.6		0.0	:	47.8		495.5		02.7
<del></del>	3		7.44	6.57		4.9	ç	1.5	9	2.8	93	3.2		0.0		45.2		495.1		02.7
		-	7.41	6.57	9	4.9		91.9	9	2.8	93	3.2		0.0		43.1		495.5		03.2
	<u>.</u> 5		7.42	7.09		4.9	,	2.3	9	2.3	97	ρ, β		0.0	:	40.9		495.1		12.7
	6		7.44	6.57		4.9		1.0	9	1.9	92	2.3	-	0.0		137.9		494.2	;	01.9
k				,														<del>_</del>		
		/-	•• ••									<del></del>		<u>.</u> . —:						
	FR I	PTC -	TC 947/	PTC PORT-	22 NO P	SM/PS4	. NO 1	SH/PS	A NO P	SM/PSA	NO PS	SY/PSA	พา	PSM/PSA	NO I	PSM/PSA	NO F	SH/PSA	NO P	SM/P
			105.3 3.9													1.03520				
	1 															1.00644				
	~ <u>.</u>		114.5 3.9													97584				
	. <b>3</b>		104.0 0.9													0.98781				
	4		144.9 0.8													0.98000				
	5		114.5 3.9				7 20 1	U.Y//Y	2 17 :											
	6	6.6	103.2 0.9	368 6,7	'n			_			21 D	.97323		1.02322		<u>`</u>	<u>.</u>			<b></b> .
*** * ******* *	•	-		•		, -	·										=-	- 4102	=:	<u>.</u> -
	MINE	TUMNE	EL TEST CO	"BITIONS	Q	7.4	176 0.0	PT 1	17.996 Ta	PS 0.01	PGLL	428 PS <b>X</b> =	۲/۱ اول	5.5				<b>TF4P</b>	100	. s 
	AVEDA	CE WI	カカモレ ノかのフプレ	F PARAMETE	·RS P1	12.∓	0./	14.4	≖ <u>7</u> υ9	• **	PTC/	PSA= ATER T	η, OTAL	.90 . Temper		22]/PSA E=C.		7013 		
	<b>सारक</b> ्षा		. W. C. Cult.	******	••••		• • • • •			•			_ `							
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**4** → **3** 

	JB AI	UĢUST	1973			rSFC_T PLJ#	RISCAIC ALC E TECH-OLO	NO TUNNEL	-Latsville. Gulfscevi	PHASE		TEST 575	RUN 215/1
1								<del> </del>   ===================================	ع"ت <u>ت</u>	GREES FAMRE	VHEIT		754
	FRA	₹ <u>C</u>			÷1C	2x1, (7)	241-151	2k1,[3]	\$K[n[4]	SKIM[5] MO	DEL-STING F	SEDEM-NINE	
	;	1	7.3	4	7.10	194.5	101.4	173.5	101.4	. · 0	148,9	492.0	127.5
		5	7.3	7	7.1	104.9	151.7	103.2	101.4	ī . O	146.0	492.9	126,2
		3	7.3	7	7.13	104.5	10"-1	1-1.9	107.6	0.3	136.7	492.9	125.5
		4	7.3	4	7.10	104.0	99.7	151.5	189.1	û <b>.</b> 0	137,9	492.0	125.7
		5	7.3	: 3	7.10	104.5	98.0	171.5	183.1	6.3	137.0	491.6	125.7
<del></del>		6	7,3	15	7.10	104.5	98,8	100,6	99.7	0.0	135.7	491.2	124.9
ye												e contract the contract	-
<del></del>		., .			, way and 1.1								
<del></del>	FR	PTC	TC F	47/FTC	POHT-22	NO PSM/PSA	NU PSM/PS	A NO PSM/PSA	MO PSM/PSA	NO PSM/PSA	NO PSM/PSA	MO PSM/PSA	NO PSM/PSA
···	1	7.1	124.2	j.942J	7.27	5 0.90194	6 0.9840	3 11 1.02981	15 1.09558	3 23 1.07674	29 1.10759	34 1.00718	35 1.17188
	2	7.1	127.5	0.944A	7,28	4 0.81143	7 1.0719	0 12 1.01560	17 1.12558	24 1.88453	30 1.09346	241 9,81721	36 1.11347
	3		127.9		7,27			6 13 1.03244					
	4			0.9350	7,27			5 <b>14 1.0</b> 0507					
	5			1.0994	7.26			7 15 1.04559					
	6			3.9436	7.27					3 28 1.09769			·-
			15005	3.7730		<del></del>							
	HIND	TUNN	EL TEST	C04611	[10NS	9 7.5	-	18.613 PS	7.351 ROLL (	R/L 5.5	MACH1	1288 TEMP	101.0
	AVER	AGE M	DDEL/NO	127LE PI	ARAMETERS	PTC= HEATER T	6.7 TC	= 127.5	PTC/PSA=	0.92 TOTAL TEMPER	PSH[22]/PS/ RATURE: 75.		
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<u>.</u>		<del></del>			*******	-TEMPERATUR	E DATADE	GREES FAH	RENHETT		
FRAME		PSA	PTC	SKIK[1]	SKIN[S]	Zkin[2]	SKIN[4]	SKIN[5]	ODEL-STING F	EEDER-PIPE	TCH
1		5.?2	4.41	204.2	188.6	213.7	212.4	0.0	316.0	884.3	294.
2	.,.,	5.19	4,41	203.8	162.5	208.5	207.7	0.0	313.0	883.9	292.
3		5.21	4.41	202.5	178.6	203.8	202.9	0 • 0	309.1	883.0	291.
4		5.24	4.41	202.6	175.6	199.4	199.0	0.0	306.5	883,5	290.
5		5,20	4,41	200.7	171.7	196.û	194,7	0.0	303,5	883.0	289.
6		5.23	4,41	199,4	169,9	192.0	191.2	0.0	300.4	883.5	288.
FR P	TC	TC P47/PTC	PORT-22	40 PS- /PSA	NO PSM/PSA	NO PSM/PSA	NO PSM/PSA	NO PSM/P	SA NO PSM/PSA	NO PSH/PSA	NO PSM/P
1	5,5	294,8 0,8347	5.30	5 0.90843	o g.94476	11 9.93735	16 0.96924	23 0.961	08 29 1.04784	34 1.r3153	35 0,960
2	4,4	292.6 1.8408	5,29	4 0,79719	7 0.93438	12 0.92697	17 0.97443	24 0.967	75 30 1.06935	41 0.79497	36 1.147
3	4.4	291.8 1.0408	5,28	3 1.03820	8 1.03746	13 1.01521	18 1.03820	25 0.956	63 31 1.08863	42 0.78681	37 1.141
4	4,4	245 1.0316	5.31	2 1.39267	9 1.00261	14 0.96924	19 1.07009	26 0.939	57 32 1.08492	39 0.79230	38 1.138
5	4,4	280,7 1,0316	5,31	1 1,45942	16 6.99074	15 r.96034	20 1,12571	27 0.996	67 33 1.10124	4g g.792gg	43 0.839
6	4,9	286,7 6.9298	5.31				21 1.09975	28 1.025	60		
WIND T	UNNE	L TEST CONDI	ITTONS	0 7,7					3 MACH 1	L,457 TEMP	106.1
MODEL	ATT1	TU <sub>U</sub> F  DEL2.C <b>77</b>  F P	ARAMETERS	ALPHA	-0.02 BET	291.7	PTC/PSA=	0.98	PSM(22)/PS/	A= 1.0162	
HEATER	PAS	AMETERS		HEATER T	OTAL PRESSU	PE= 1990.	HEATER T	TOTAL TEMP	ERATURES 650.	•	

						-TEMPERATURE	DATADE	GREES FAHREN	HEIT	NER-PIPE	TCH
	FRAME	PSA	PTC	SKIN[1]	SKIN[2]	ZKIN[3]	SKIN[4]	SKINIST HOL	EL-STING FEE		
	1	1,21	15,48	78,5	76 <b>.7</b>	78,0	81,5	0.0	180,3	643,≘	272.2
			15.48	7t.0	76,7	78.ŭ	81,5	0.0	151.2	642.5	273,1
		1,21			76,7	78.0	81,5	0.0	180.5	640.	274.t
	3	1.21	15.48	78.0		77,6	80.2	0.0	179.5	639.3	273,5
<u></u>	4.	1.22	15.48	78.9	76,7				179.0	637.3	274.0
	5	1,21	15,48	78,5	75,9	77,6	80.2	0.0			
-	6	1.22	\$5.40	75,9	75.4	76,7	79.8	0.0	184.7	636.3	275.7
<u> </u>											
-)								, <del>_</del>			
<del>(1)</del> -		_			VC 35M/85	A NO PSM/PSA	NO PSH/PSA	NO PSH/PSA	NO PSM/PSA I	40 PSM/PS4	NO PEM/PSA
	FR PTC	TC P47/PT	C PORT-22	NO PSMYPSE	NU FORFE	04370	46 5 07574	23 n 94199	29 0,92670	34 0.92734	35 3.71334
	1 15.0	272.2 0.017	2 1.92	5 0.82734	6 0,8662	0 11 0,94772	10 6.4,2,4	20 0424122	2- 04454	44 0 22404	30.00186
	2 15.5	273.5 0.017	3 1.18	4 0.77193	7 0.6897	6 12 0.99485	17 0.94581	24 0,97383	30 0.94454	41 0455101	
		274.0 0.017	1.18	3 1,44647	a <b>0.9</b> 728	3 13 n.99485	18 9,99294	25 0.98976	31 9.94135	42 0.18025	37 0.93944
			70 4.19	2 2.50624	9 6.9903	9 14 0.96619	19 0.99485	25 0.97893	32 0.93626	39 9.16152	36 6.96646
		274.4 0.017		- 0 (0850	2 2 4763	IR 15 1.00122	20 0.99740	27 5.99167	33 0.93817	40 0,17706	43 0.20954
		275,3 6.01						4 28 C.97320			
<del>_</del>	6 15.0	275.3 0.019	56 1.18		<u> </u>	· · · · · · · · · · · · · · · · · · ·	£1 0,7727				
			<u> </u>							ADO TEMP	100.3
	MIND TUNN	EL TEST CON	DITIONS	. 0 10.	293 PT 0.00 BE	90,044 PS ETA 0.00		R/L 10.7			
	MODEL ATT	TTUJE	*********	MEFOM	44 G T	C= 274.1	DTC (DCL=	12-24	PSM(22)/PSA=	1,0702	
	HEATER PA	RAMETEPS		HEATER	TOTAL PRESS	SURE= 1300.	HEATER	TOTAL TENTE			<u> </u>
			<u></u>	<u> </u>							
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	TEUBUA SP	1973		PLUME	TRIBONIC MI	NO TUNNEL TEST NOZZ	HUNTSVILL Le calibra	E, ALABAMA FION PHASE		TEST 575	RuN 211
			···								
						TEMPERATU	RE DATA	DEGREES FAI	RENHEST		TCH
	FRANE	PSA	PTC	SKIN[1]	SKIN(2)	3K [M(3)	\$K[M[4]				
	1	0.53	191.85	86.6	88.8	98.2	89.3	94.1	167.6	188.3	167
	5	0.96	192.91	86.4	87.5	89.7	49.3	96,3	185.2	185.2	167.
	. 3	0.58	193.96	67,1	\$9.3	18.6	98.2	98.5	164,3	183.9	168,
	4	0.60	195.01	96,6	85,4	90.2	91.0	100.7	183.4	182.1	160.
	5	1.48	176.06	84.6	89.3	90.2	91.9	143.6	183.0	181.2	1 (8)
								<del></del>			
J	FRANE	PTC	PEG	Y	C PSN(44)	/PTC PBN145	1/PTC PSH	461/PTC PSI	((47)/PTC P81	IL403/PTC PSN	(49)/PTC
	1	178.20	188.70	16	9.0	1727 6.	01657	9.01122	8.01188	0.01275	9.07613
	5	191,33	190,28	16	0.0 0.0	1728 8.	01020	0.01127	8.61137	0,01270	0.07576
	3	191.85	170.40	16	8.9 0.0	1733 0.	81061	9.01129	0.01150	0.01275	0.07556
		193.96	191.65	16	9.4 0.0	1730 0.	01060	9.61122	0.01137	0.01271	0.87474
	5	195.01	193,43	16	9.8 0.0	1721 0.	01054	.01121	0-01131	0.01269	0.47428
	· · · · · · · · · · · · · · · · · · ·		<u> </u>							<u></u>	
	TUNNEL STA	TIC PRESSUA	E= 0.579	HEATE	R TOTAL PRE	SSURE: 200	. HEAT	ER TOTAL TO	HPERATURE= 2	200. ALPH	A= 0.00
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TEST 575 RUN 220/0

	FRAME	PŠA	PTC	SKINLII	SKINIZI	SKIN(3)	SKIN(4)	SKINESI	MODEL-STING	EEDER-PIPE	15-
	1	0.59	372,38	80.9	86,2	86.2	87.1	121.6	295.2	265.7	252.5
gadys, and sept. I see the first	5	0.62	371.85	81.4	87.1	86.6	88.8	127.6	291.7	263.1	252.1
· <del></del>	3	0.64	375,54	81.4	68,4	87.5	91.9	133.7	289.5	263.1	252.
		0.67	374,49	82,2	91.0	88,4	94,6	140.3	286.8	262.6	253.4
		0.58	375.54	83.6	91.9	69.3	97.6	144.3	284.2	261.3	252.

two controls of the control of the c	FRANE	PTC	PSC	TC P	SNI441/PTC P	SN(45)/PTC	SN(461/PTC P	BN1471/PTC 1	PSH(48)/PTC PS	N[49]/PTC
was appeared to the same of th	1	370,80	368.79	252,5	8.01741	0.41932	0.01859	6.01091	0.01242	8.83989
	2 -	370.80	368.17	252.5	0.01749	0.01034	8.01675	9-81096	0.01250	0.03909
	3	373,96	371.33	252.5	0.01742	0.01031	0.91971	0.01090	0.01242	0.03676
	<u></u>	373.43	370.84	253.8	0.01753	0.61938	0.01078	6.01094	0.01249	e.e3884
- <del> </del>	5	376.06	373.43	253.0	8.81743	0.01031	0.01870	8.81092	0.91243	0.93855

TURNEL STATIC PRESSURE=	0.642	HEATER TOTAL	PRESSURE=		TEMPERATURE*	ALPRA -5.0	
and the state of t		·	<u></u>	 	<u></u>	 	
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A-121

	<del></del>	. 92	AU <b>OUS</b> T	197	3	·····			PLUM	C TR	(SON)	CON I	in Tu	MNEL NO	HU ZZLE	mpsvi Calib	RAT	, ALABA Lon Pha	HA SE	;		TES1	T <b>5</b> 75	RUM 22	2/1
	· · · · · · · · · · · · · · · · · · ·		AME		SA	PT			(1N(1)		SKIN			PERA		BATA- Kini4		EGREES SKINI	FAH 51	RENHEI1 NODEL-S	TIME	FEEDER-	-PIPE	TCH	<del></del>
			1		0.50	597			132.6		137			46.9		158.		155		4 1 41	70.0		311.5	279	7.4
			2			575		<del></del>	132.4	•	130			47.4		150.	· .	162			61.6		305,8	279	7.6
			3		1.04 . 34	559			132.4		131	7.7		146.5		150.		168			54.6		300.0	279	
<del>_</del>					0.36 		- F.							46.9	:	152.	<u>:</u>	173	7		46.7		294.8	278	
		<del></del>	4	: : 1	0.60	548	700	:	132.6	4.5	140			47.4		153.		186	<u> </u>	3	144.4	4	292.1	275	
-1		1 1 1 1 14 1 14	5		1.42	543	• •0	4.	192.	11 .	241				· · · · · ·	150.	<b>'</b>	700	<u>.                                    </u>	•				-	
	1 97					+ V +	<u> </u>			·		<u>:</u>	<u> </u>				<u> </u>		-						<u></u>
				<u> </u>	<u> </u>						191				450.00			(170 <b>7</b> C	DEN	(		<u> </u>	TC DEN	1[491/PTC	
Ė.			Frane		<b>P</b> 76		PI	<u> </u>	167	TC		3.35			100		20, 50			0.0111	11	0.612	34.	0.02521	
			2		575, et		571.			279.1		0.4	Janes.	15/4/2	•.);•	, itali	444	.61061			9. 5	0.012		<b>8.82597</b>	- 1
			3		935,17		<b>935</b> .	34.7	914	379.	1988	(0.10)	mpr.i	编辑	0.910	THO,	1940	.01080	 ! i	0.0111					+ ,
			4	1	544,46		gar.	5.3	(24)	279.4		9.8	1127		0.610	<u> </u>	4500	.81078		0.0111		0.018		0.02656	
440) 11			5		342.91		539.	17		278.	9	0.5	777	11 (1) (1) (1) (1) (1) (1) (1) (1) (1) (	6.010	23	•	.61079		8.9111		0.012		0.02672	
							145	424				7,04	79. J.		110					1614. I					•
		hilik . Mili										144 1 7 7 544 1 7 194 1		1200		i sh jibij									1954 1944
		TUN	NEL ST	ATIC	PRESSU	E	0.54	4	HE	TER	TOTAL	L PRE	SUR		92.	HE	ATE	R TOTAL	TE	HPERATI	/RE=	300.	ALPH	IA= -8.82	<b>.</b>
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				PLURE	TECHNOLOGY	TEST NOZZ	LE CALIBRA	TION PHASE			
							RE DATA	DEGREES FAH	RENHELT		
***	FRAME	PSA	<del>-</del>	SKIN[1]	SKIN121	SKIN(3)	SK19[4]		MODEL-STING		TCH
	1	0.37	792.91	92.4	97.2	110.0	128.0	138.1	370.4	403.9	3.7
	5	0.39	790.80	92.8	97.2	110.0	128.9	150.8	369.6	389.8	345
	3	0.41	808.70	91,9	98,1	116.0	129.8	162,3	367.8	378,8	348
	4	0.44	811.33	92.4	190.7	110.8	132.0	176.0	366,5	372.2	345
	5	0.46	821.85	92.6	102.5	112.2	135.0	158.3	365.2	367,8	347
	FRANE	PTC	PSC	Ŧ	C PSN(44)	/PTC PSN(45	I/PTC PSNI	461/PTC PSN	[47]/PTC PSN	1481/PTC PSN	[49]/PTC
	1	794.49	788,17	34	5.4 0.0	1762 0.	08998 1	0.01055	0.01086	0.01225	0.01826
	2	790.28	786.59	34	6.7 0.0	1789 0.	61013	9.81071	0-01103	0.01245	0.01834
	3	807,64	801.33	34	7.6 0.0	1766 0.	01006 (	0.01058	0.01088	0,01229	0.01795
		810.80	885.54					0.01069	0.01096	0.0:240	0.01789
	5	922.38	816,59					.01966	9:01089	0.01231	0.01763
MARA AND CO. No. 10	· · · · · · · · · · · · · · · · · · ·										
	TUNNEL STA	TIC PRESSUR	E= 0,433	HEATE	R TOTAL PRE	SSURE= 800	. HEAT!	R TOTAL TE	HPERATURE= 3	50. ALPH	A= -0,62
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	02 AUGUST	1973		MSFC	TRISONIC WI	NO TUNNEL	HUNTSVILL ZLE CALISPA	E, ALABAMA		TEST 575	RUM 223
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						TEMPERAT	URE DATA	DEGREES FAI	MODEL-STING	FENER-PIPE	TCH
	FRAME	PSA	21c	SKIN[1]	SKIN(S)	SKIN121	SKIN(4)			435.6	390.
	1	9.37	994.49	115.2	122.7	134,6	148.7	167.6	439.5	••	
	3	9.48	997.12	114.8	121.6	135.7	158.4	183.9	435.4	423.2	390.
	3	8.44	1012.91	114.8	124.0	134.6	152.2	198.8	439.5	415.3	391.
· · · · · · · · · · · · · · · · · · ·		1.46	1813.96	114.6	125.4	135.0	154.8	215.1	427.2	412.7	391.
	5	0.50	999.75	115.2	126.7	135,5	157.9	228.3	428.8	488.7	39.
											<u></u>
	FRAME	PTC	PSC		TC PSH(44	JATC PENL	5)/PTC PSN	(461/PTC PS	1471/PTC PE	HE403/PTC PSN	(491/PTC
	- 1	991.85	987.12	3	90.7 0.	1772	.00978	0.01651	0.01083	0.81225	0.01462
	- 2	997.64			98.7 6.	01821	.08997	0.01060	0.01009	0.01233	0.01455
···-		1013.74						9.01054	0.01086	0.01227	0.01431
						<del></del> -	.44995	0.01055	0.01005	0.01220	0.01431
	4	1014.4					.80989	0,01058	0.01078	0.41222	8.81457
	5	996.5	9 990.26		187,5						
	TUNNEL ST	ITIC PAESS	URE= 0.435	HEAT	TER TOTAL PR	ESSURE: 10	DO. HEA	TER TOTAL T	ENPERATURE:	480. ALPI	W= -0.05
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MSFC TRISONIC WIND TUNNEL MUNTSVILLE, ALARAMA PLUME TECHNOLOGY TEST NOZZLE CALIBRATION PHASE

TEST 575 RUN 22-79

TCH	FEEDER-PIPE	HRENHEIT MODEL-STING	SKIN(5)	SKIN[4]	SKINI31	SKINIZI	SKIN!: )	PTC	PSA	FRANE	
137	484.0	449.6	170.7	146.5	134,2	123.2	117.4	1241.33	0.32	. 1	
439	470.8	450.5	192.7	148.2	134.6	124.5	117.4	1257.64	0.35	2	
442	466.4	450.5	213.8	152,2	135,5	125.8	117.4	1262.91	0.37	<b></b>	
444	464.6	450.5	234.5	155.7	135,9	128.0	117.9	1281.33	0.46	<b>4</b> · · ·	
447	463.5	451.0	253.8	159.7	137.2	131.5	118,3	1301.33	0.42	5	

 FRANE	PTC	PSC	TC F	SNE441/PTC P	SN [ 45 ] / PTC	PSN(46)/PTC P	SN(47)/PTC P	SNI481/PTC PS	NE491/PTC
 1	1241.33	1234,49	436.9	0.81866	0.48989	0.51043	0.01074	0.01219	0.01169
 2	1268.28	1252.38	439,1	8.81798	0.00981	8.01838	0.01875	6.01212	0.01151
 3	1261.85	1254,49	442.2	0.01619	0.01081	0.01098	0.01085	0.01226	0.01150
 4	1270,17	1272.38	443.9	0.01816	8.01008	0.01048	0.01084	0.01225	0.01136
 5	1309.28	1293,43	447.4	0.01801	0.00991	0.01048	0.01074	0.01213	0.01117

TUNNEL STATIC PRESSURE	0.371 HEATER	TOTAL PRESSURE	1948. HEATER	TOTAL TEMPERATURE	495. ALPHA= -0.02
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HUNTSVILLE, ALABAMA

**Y** TEST 575 FUN 302/0

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		17 AUGUST	1973		MSFC TRI PLUME TEC	SONIC WIN			E, ALABAMA		*ES* 578	AUN 304/3
	(	·····										
		FRAME	PSA.	PTC S	KINI11 S	KIN(21		E DATA SKIN[4]	DEGREES FAR	RENHETT	FEEDER-P1PE	TCH
			2.61	902.32	129.8	132.0	141.2	171.1	150.0	257.8	63;.9	592.0
			2.61	903,40	130.2	130.6	140.3	171.6	152.6	275,8	61¢,=	569.5
•						130.2	139.9	172.4	151.8	295.2	609.4	518.7
ORIGINAL		3	?, <u>61</u>	919.15	129.8	131.5	140.8	172,9	147,8	313.2	685.0	526.6
<u>G</u>		4	2,61	928,11	129.8							
2 -			2.61	945.48	130.2	132.4	140.8	174.6	152.6	327,3	600,6	531.5
9 6.		. 6	2.61	950.74	129.8	132.0	141.2	175.5	151.3	344.0	601.0	537.(
22-					·····						······································	
PAGE 18	<b> </b>								······································			
73 5	â	FRAME	PTC	PSC	ŢC	PSN[44]/	PTC PSN[45]	/PTC PSNI	46]/PTC PSM	[47]/PTC PS	4[48]/PTC PS	(49]/PTC
_	<del></del>	1	897,06	880,22	502.0	0.05	770 0.0	3765	0.03734	0.03746	0.14201	-0.79403
			907.59	889,16	510.4	0.05	707 0.0	3726	0-03693	0.03706	0.04151	-0.00453
(	(	3	920.74	904.43	519.2	0.05	668 G.O	3702	0,93667	9.03683	5.04121	-0.00475
_		4	923.95	907.06	527.1	0.05	702 0.0	3719	9.03694	0.03707	0.04147	-0.09478
			943.90	926.53	531.9	0.05	656 P.C	3689	r. 0366B	0,03682	0,04117	-0.00483
		6	949.69	930.74	537.6	0.05	677 n.o	3791	0.03684	9.03698	0,04134	-0.00474
		TUNNEL STA	TIC PRESSUR	E= 2.610	HEATER T	OTAL PRES	SURE= 1200.	HEAT	TER TOTAL TE	MPERATURE=	630. ALPI	:A= 0.00
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1.7	AUGUST 1	973			ISONIC WIND 1 Chnology Test		HUNTSVILLE E CALIBRAT			TEST 575	RUN 30
					7(	MPERATUR	E DATAD	EGREÉS FAM	RENHEIT	******	
<u>F</u> [	RAME	PSA			• •	11/13]	SKINI41			FEEDER-PIPE	TCH
	1	2.61	1373,41	£6 <b>.</b> 8	90.6	91.9	99.8	152.2	362,5	631.4	569
		2,61	1358.15	89.3	93.7	93.2	102.9	147,8	379.7	627.0	567
	3	2,61	1298,15	89.7	94.6	93.7	106.9	152,6	392.0	620.4	563
	4	2,61	1266.57	90.2	98.1	95.0	111.3	147.8	406.5	617.3	562
	5	2.61	1218.15	98.6	100.7	96.3	114.8	152.2	415.3	611.1	557
	6	2.61	1196.15	91,5	102.5	97.2	115.8	152.6	424,6	606.3	554
<del></del> - <del>-</del>	FRAME			<u>TC</u>						(481/PTC PSA	
	1	1372.89	1350.26	569,				0.03673	0.03705	7,03178	<u>-n.n3363</u>
	2	1352,89	1328.15	567.	1 0.0572	L 0.0	3649 0	,03629	0.03656	0,03134	<u>-0.03430</u>
	3	1300.78	1279,73	563	6 0.05784	0-0	3690 0	0.03667	0.03700	7.03170	-0,03577
•	4	1267,62	1244,47	563.	2 0.05759	0.0	3671 0	,03655	g. n3684	r.03150	-0.03676
<del></del>	5	1221.31	1198,15	558,	3 0.05619	5 0.0	3712 0	0.03698	0.03725	<u> 5182</u>	-p.p3832
	6	1199.73	1178,68	554.	<u>8 0.05768</u>	3 <u>0.</u> g	3681 0	0.03665	c.03690	0.03156	-0.03915
TUI	NEL STAT	IC PRESSU	RE <b>× 2.610</b>	HEATER	TOTAL PRESSU	?E= 1890,	HEATE	R TOTAL TE	MPERATUPE= 6	45. ALPH	iA= -0.02
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						-TEMPERATUR	E DATA	DEGREES FAH	RENHEIT		
	FRAME	PSA	PTC S	KIN[1]	2KIN[5]	2x [n[3]	SKIN(4)	SKIN[5]	HODEL-STING	FEEBER-PIPE	
	<u> </u>	2.61	1436,05	130.2	136.8	146.9	141.2	150.0	356.8	665.7	577.2
	2	2.61	1456,57	130.2	137.7	148,2	143.6	151.3	376.2	652.5	580.3
	3	2.61	1466,57	129,3	137.2	146.9	144.7	147.8	393.8	644,1	580.6
	4	2.61	1469.73	129.3	138.1	146.9	146.9	148,7	408.7	638.4	582.5
	5	2.61	1453.41	129.8	138.1	146,9	150,4	150,9	421,9	634,4	582,5
	6	2,61	1435.52	129.8	139.4	147,8	152,6	152.6	432,9	630.9	580.
	FRAME	PTC	PSC	10	PSN(44)/	PTC PSN(45)	I/PTC_PS!	461/PTC PSN	[47]/PTC PS	[46]/PTC PSI	X ( 49 ] / PTC
	1	1440.26		576.			3643	0.03615	0.03645		-0.03136
	2	1454,99		580.			3638	0.03608	0.03638	0.03063	-0.03141
	3	1465.52		580.			3651	0.03616	0.03646	0.03066	-0.03134
	4	1467,10		583.			3665	0.03640	ე.03663	4.03074	-0.03115
	5	1452.89	•	583.			3675	n.0364B	0.03673	9.03079	-0.03159
,-, +*	6	1438.15		580.	•		3625	0.03599	0.0362	0.03032	-0.03192
	TUNNEL STA	TIJ PRESSU	RE= 2,010	<b>PFATER</b>	TOTAL PRES	SUFE= 1995	HEA	T R TOTAL TE	HPERATURE= 6	140. ALPI	HAE -0.02
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								DEY TESTN	ON-ADICODEN				
		•						TEHPERATU	DE NAVALLIN	EBEC Fili	emiety:::::::		
	FRA	HE	PSA		PTC	SKIN[1]	SKIM(2)	SKIN[2]	SKIN(4)	SKIN(5)	OBEL-STING	FEEDER-PIPE	ŢĊĦ
		1	1.1.	21	-0.25	-75.5	74,6	75.4	76.7		75.4	108.4	80.
	•	2	1.2	22	-0,25	-75.6	74.6	75.0	76.3		74.6	198.4	89.
		3	1,1	; <u>\$</u>	<b>8.28</b>	-74,5	76,3	76,7	76.7	6.0	75.1	190,4	81.
		4	1.2	55	9.88	-76,8	75.4	75,9	76.3	0.0	75.4	100.8	\$2.
		5	1,2		0.26	-75.0	74,6	75.4	76.3	0.0	74.6	188,4	81.
	-	6	1.3	24	0.20	-75.6	74.6	75.4	75,9		75,4	108.4	81.
					<del></del>								
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	FR	PTC	TC E	47/PTC	PORT-22	NO PSH/PS	A NO PSH/PS	A '10 PSH/PS/	NO PSM/PSA	NO PSH/PS	A ND PSH/PS	IA NO PSH/PSA	NO PSH/P
	1	0.3		2.0082								2 34 1.25118	
		0.5	42.4	0.4893							- · <del></del>		
	3	1.9	83,2	0,3160								4 42 0,24896	
	4			6.7389	1.19							2 39 0.24769	
	· 5	1.3	83.2	0.4161	1.19							6 40 0.24514	
	6	1.3	63.2	0.4161	1.19			. <u></u>	21 0.98439			79 415-12-12	TO VILLY
		<del>-</del>	-		- <b></b>	*					<del>*</del>		
	HTMB												·
	HODE	L ATTE	TUDE		TONS	. ALPHA	296 PT 8.00 BE	90.069 PS TA 0.00		R/L 18,3 .0	MACH	3.480 TEMP	113.0
	AVER	age mo Er pag	DEL/ND AMETED	ZZLE PA	RAMETERS	PYC:	1.1 TC	= 83.0	PTG/PBA=	0.48	PSM(22)/P5		
							FRE33	URE= 658.	menick I	UIAL IEMPE	KATUKET (	· •	

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FRAME	⊬S≜	PTC	SKIN[]]	SKIN(2)	TEMPERATU SKIN[3]	RE DATAD Skin(4)	EGREES FAHREN Skin(5) mod	HEIT EL-STING FE	DER-PIPE	TCH
1	1.21	-0.25	-75.5	74.6	75.4	76.7	0.0	75.4	108,4	80.2
2	1.22	-0.25	-75.0	74,6	75.0	76.3	0.0	74.6	108.4	60.6
3	1.22	0.28	-74.5	76.3	76,7	76.7	0.0	75.0	108.4	81.1
4	1.22	0.80	-76.0	75.4	75.9	76.3	0.0	75.4	108.5	82.4
5	1.22	0.28	-75.0	74.6	75,4	76.3	0.0	74.6	108.4	81.1
6	1.21	0.28	-75,0	74,6	75.4	75.9	0.0	75.4	108.4	81.1

FR	PTC	TC P47/PTC	PORT-22 N	ID PSM/PSA	NO PSM/PSA	NO	PSM/PSA	NO	PSM/PSA	NO	PSH/PSA	NO	PSM/PSA	NO	PSM/PSA	NU	4241424
1	0.3	81.9 2.0080	1.19	5 0.82075	6 0.86214	11	0.93918	16	0.96974	23	0.93409	29	0.94682	<u>3</u> 4	1.25118	35	0.72970
2	0.8	82.4 0.6893	1.19	4 8.76599	7 0.88824	12	0.98821	17	0.90225	24	0.96481	30	0.94236	41	0.28589	36	0.90989
3	1,9	83.2 0.3160	1,19	3 1.44729	8 0.91753	13	0,98884	18	9.96401	25	8.97675	31	3,81976	42	0.24896	37	0.95255
4	0.8	84.1 0.7369	1.19	2 2.53801	9 0.98439	14	0.96083	19	9.98566	26	0.96019	32	0.99012	39	0.24769	38	0.99267
5	1.3	83.2 0.4161	1.19	1 2.58450	10 0.96783	15	1.00031	20	8.99139	27	0.97738	33	3.81976	40	0.24514	43	0.28717
6	1.3	83.2 0,4161	1,19					21	0.98439	28	0.96401						

MIND TUNNEL TEST CONDITIONS..... G 10.296 PT 98.069 PS 1.215 R/L 10.3 MACH 3.460 TEMP 113.0 MODEL ATTITUDE..... ALPHA 0.00 BETA 0.00 ROLL 0.0 AVERAGE MODEL/MOZZLE PARAMETERS.. PTC= 1.1 TC= 83.0 PTC/PSA= 0.88 PSM[22]/PSA= 6.9796 MEATER PARAMETERS... HEATER TOTAL PRESSURE= 450. HEATER TOTAL TEMPERATURE= 0.

FR	ANE	PS.	A	PTC	SKIN	i(1)	SKIN	(2)	SKIN	(3)	SKINI4	) SK	N(5)	MODEL	-STING	FEED	R-PIPE		TCH
	1	1	.21	505 <u>.52</u>	1	7.1	10	6.7	11	0.1	116.	5	0.0	<b>.</b>	139.4		237.1		308.
	5	1	.21	500.68	<u>1</u>	5.8	10	3.6	10	8,8	\$14.1	<u> </u>			151.3		247.5		297.
	3	1. 1.	.2:	508,15	1	3,4		2.7	10	8.4	113.0	\$	0,\$		161.7		251.0		283.
	•	1	.21	513.41		7.6	10	3.2	10	7.5	113.	2	0.0		167.8	····	248.8		267.
	5	1	.21	517.62	1	7,6	10	1.4	10	6.2	112.	<u> </u>	0.8		174.3	<del></del>	242.8		250.
	6	1,	.21	917,10	1	5.9	19	2.3	10	6,2	111.5	9	0.0		179.0		233.7		233.
3 4 5	507.4 507.1 512.9 517.1	297.0 297.0 282.0 267.0	9 0.0376 0.0376 0.0376 0.0376 0.0375 0.0376	0.85 0.85 0.85	5 0 4 6 3 1 2 2 1 2	.42626 .77657 .45249	5 6 9 7 7 9 9 8 9	.86321 .88423 .91927 .99126	11 0 12 0 13 0	.93966 .98999 .99196 .94514	16 0.97 17 8.93 18 6.96 19 8.96 28 6.91	7151 23 5265 24 6960 25 8867 26 8449 27 7160 28	0.936 0.966 0.979 0.963	47 29 41 36 79 31 23 32 43 33	0.948 0.938 0.938 0.939	88 41 18 42 20 39	e.9116 e.7e26 e.737e e.9855	3 35 7 36 7 37 3 38	8.768 8.902 8.948 1.861
HOD	EL ATT Rage H	TTUDE.	IOZZLE F	TIONS	AL	C= 51	9.00	BET TC=	273	8.00	1.214 ROLL PTC/PS/ HEATE	0.0		PSH	164 155]/P	3,48( SA= 0,	-	P 1	03.6

ORIGINAL PAGE IS OF POOR QUALITY

FRANE	PSA	PTC	SKINIII	SKIN(21	TEMPERATU SKIN(3)	RE DATAD Skin(4)	EGREES FAH SKIN(5)	RENHEIT HODEL-STING	FEEDER-PIPE	TC4
1	1.22	1097.12	11.9	75.4	75.0	75,4	0.0	74.1	<del>5</del> 5.5	53.3
2	1.21	1110.80	12.4	74.1	74.1	74,6	0.0	72.0	49.4	48.1
. 3	1.21	1109.75	16.6	75.9	75.0	74.1	0.0	69.4	43.4	42.9
		1084.49	18.2	73.7	74.1	74.1	0.0	66.8	38.2	38.2
5	1.21	1088.17	17,6	73.7	73.7	73.7	0.0	63,7	32.5	35.6
6	1,21	1091.85	15.0	73,3	73.7	72.8	0.0	61.1	28.6	33.0

FR PTC	TC P47/PTC	PORT-22	NO PSH/PS/	NO PSH/F	SA NO	PSM/PSA	NO	PSM/PSA	NO	PSH/PSA	NO	PSH/PSA	NO	PSH/PSA	NO	PSM/PSA
	54.2 0.0373		5 0.8246	6 8.861	62 11	0.92912	16	0.96415	23	0.93294	29	0.94122	34	0.92538	35	0.70496
• • • •			4 0.7756	7 n.AAs	72 12	n.98261	17	: 91766	24	0.96224	30	0.93422	41	1.09469	36	0.89792
	48.6 9.0370	1.0				0.08780	48	a_059n5	25	8.97497	31	0.92594	42	1.16857	37	0.93740
3 1119.3	43.8 0.0372	1.33	3 1,4576	i a b-Ati	ies ja	0.40304			<del></del>	n 05650	12	n.03839	30	0.99089	38	0.98070
4 1087.1	39.6 0.0373	1.33	2 2.5402	9 0 983	125 14	0.95523	17	0.9//22	_20	0.93030	<u> </u>	- 00765	4.5	4 48404	43	1_09024
5 1088.2	36.4 0.0371	1.33	1 2.9497	19 9.96	33 15							ñ*ăS\03	70	7175-0-	••	111.00.
6 1091.3	33,4 0,0371	1,34					21	1,32904	28	0.96033	-					

WIND TUMMEL TEST COMDITIONS..... 0 10.294 PT 90.056 PS 1.215 R/L 10.5 MACH 3.400 TEMP 104.7 MODEL ATTITUDE....... ALPHA 0.00 BÉTA 0.00 ROLL 0.0 AVERAGE MODEL/MOZZLE PARAMETERS.. PTC= 1697.2 TC= 42.6 PTC/PSA= 903.21 PSM(22)/PSA= 1.0903 HEATER PARAMETERS.... HEATER TOTAL PRESSURE= 1200. HEATER TOTAL TEMPERATURE= 0.

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	FRANE	PSA	PTC	38 [W(1)	8K1N(2)	SKIN(3)	SK1N(4)	SKINIS) MO	DEL-STING FE	EDER-PIPE	TCH
,	1	1.21_	1455.54	17.6	63.3	62.9	62.4	0.0	78.7	105.8	137.0
•	2		1427.64	15.8	63.3	63.3	62.0	9.5	81.5	100.1	111.
÷ · · · · · ·		1.21		16,6	45,1	63,7	63,3	0.8	85,8	89.3	89.3
	4	1.22		12.9	63.7	62.3	62.9	0.8	86.7	74,6	72.
	5		1486.59	12.4	64.2	43.7	43.3	1,0	85.8	61.1	60.
	T		1385.01	17.1	43.7	63.7	63.3	0.5	81.5	49.0	50.3

FR PTC TC P47/PTC PORT-22 NO PSH/PSA NO PSH/

WIND TURNEL TEST CONDITIONS..... 0 10.293 PT 96.846 PS 1...15 R/L 16.6 MACH 3.488 TEMP 164.6

MODEL ATTITUDE...... ALPHA 8.88 BETA 6.88 ROLL 9.8

AVERAGE MODEL/NOZZLE PARAMETERS.. PTG= 1438.1 TC= 87.6 PTC/PSA= 1177.35 PSH!221/PSA= 1.1657

HEATER PARAMETERS..... HEATER TOTAL PRESSURE= 1688. HEATER TOTAL TEMPERATURE= 0.

				SKINIZI	TEMPERATU SK[N[3]	RE DATAD SKINI41	EGREES FAHRE Skin[5] HO	DEL-STING FE	DER-PIPE	TCH
FRAME	PSA	PTC	SKIN(1)	SKIMIET	-			94.1	147.0	160.0
1	1.71	1762.38	12.4	66.3	66.3	65.9	0.0	•		123.1
•		1765.54	16.1	67.2	65.8	66.8	0.0	162.3	132.7	161
2	1.21	1/05.54			44 0	66.8	0.0	105.8	111.9	95,4
3	1.21	1707.64	11.9	66.8	66.8	0010			89.7	74.6
	1.21	1551.33	16.6	65.9	66.3	66.8	0.0	104.0	071.	
4	1.21			45.0	66,3	67.2	8.0	100.1	70.7	62.0
5	1.21	1377.12	17.6	65.0			2.0	96.2	57.7	54.6
6	1.21	1237.64	12.4	66.8	66.3	66.8	0.0	7012		
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PORT-22 NO PSM/PSA NO PSM/PSA NO PSM/PSA NO PSM/PSA NO PSM/PSA NO PSM/PSA NO PSM/PSA NO PSM/PSA 5 0.83001 6 0.86568 11 0.93002 16 0.96760 23 0.93448 29 0.94276 34 0.95677 35 0.70643 1 1761.3 159.1 8.0368 4 0.78223 7 0.88734 12 0.98735 17 0.92492 24 0.96569 30 0.93766 41 1.24214 36 0.89880 2 1767.1 124.4 8.0360 1.49 3 1.46573 8 0.91345 13 0.98989 18 0.96569 25 0.98034 31 0.92936 42 1.34661 37 0.93766 1.53 3 1714.0 96.7 0.0363 2 2.55818 9 0.98671 14 0.95996 19 0.98543 26 0.96187 32 0.93511 39 1.02174 38 0.98671 1.51 1 2.95694 10 0.96314 15 1.80072 28 0.99499 27 0.98034 33 0.93065 40 1.31030 43 1.19501 4 1544.0 75.4 8.6367 5 1378.2 62.4 0.0368 21 1.34916 28 0.96569 6 1238.2 55.9 6.0372

<del></del>				PLUN	E TECHNOLOG	Y TESTN	DM-OUIESCENT	PHASE			
	FRANE	PSA	PTC	\$RIN(1)	SKIM(2)	-temperatu skin[3]	RE DATADE Skim(4)		NHEIT		TCH
	.7 1007/6	5.05	1060.22	1831.8	85.8	84.5	#2.8	0.0	86.3	85.6	70.2
	2	5.67	1865.48	1841.3	85.4	85.0	79.8	B, 0	84,5	71.5	61.6
	3	5.07	1844.95	1822.8	87.1	85.4	77.6	0.0	82.4	61.1	53.8
	. •	5.86	1700.74	1675.5	85.8	85.0	74,6	0.0	79.8	52.0	47.7
	5	5.10	1538.74	1987.6	86.7	85.0	72.0	0.0	76,3	43.6	42.5
-	•		1379.49	1355.5	66.3	85.4	76.2	8.0	73.7	37.7	39.5
<del>-</del>	· •• •• · · ·	• • •									
	_			~ ~							
	FR PTC	TC P47/P							NO PSH/PSA		
	1 1859.2	72.8 0.03	5,63		_ <del></del>				29 0.94785		
	2 1864.4	95'0 <b>0'6</b> 20	5.91	4 6.78482	7 0.95781	12 0.9585	3 17 0.96280	24 8.97990	38 8.96548	1 1.24090	36 1.1729
	3 1846.1	54.6 0.036	2 5.95	3 0.99211	8 0.79364	13 0.9448	18 0.5272	25 0.93411	31 1.00127	£2 1.26838	37 1.8669
	4 1701.8	48.6 0.036	5.02	2 1.33096	9 1.01453	14 0,9478	5 19 0.95399	26 0.91503	32 1.03790	39 1.21648	38 1.1111
	5 1529.7	43.6 0,937	70 5.65	1 1,43551	10 0.99593	15 0.9942	2 20 0.98922	27 0.93945	33 1.06585	40 1,19893	43 1,1867
	6 1382.3	41,2 0,837	72 5,44		<del>-</del>		21 0.98904	28 0.94861		<del></del>	
		TUOE	PARANETERS	0 7.7 ALPHA PTC= 169 HEATER T	0.02 BE	53.7	ROLL PTC/PSA=		MACH 1. PSH(22]/PSA= ATURE= 0.	477 TEMP	103.7

FRAME	PSA	PTC	SKIN[1]	SK[N{2]	TEMPERATUR SKIN[3]	T DATAD SKINL41	EGREES FAH SKIN(5)	RENHEIT MODEL-STING	FEEDER-PIPE	704
1	5.06	1848.64	1822.8	99.3	100.1	101.0	0.0	121.0	189.4	ŸĒ,4
2	5.02	1849.69	1824.4	98.0	98.8	98.0	0.0	116.5	141.8	7·C . 3
3	5.08	1832.32	1803.4	98.8	98.8	96.2	0.0	111.9	106.7	65.0
4	5.09	1712.85	1691.8	98.4	98.8	92.8	0.0	107.1	83.7	54.6
-5	5,16	1536.01	1517.1	97.1	97.5	87.6	0.0	100.6	66.3	45.6
6	5.15	1388.11	1375.5	96.7	97.5	83.2	0.0	94.5	54.6	46.8

FR	PTC	TO PATIPTO	PORT+22	NO	PSH/PSA	NO	PSH/PSA NO	PSM/PSA	NO	PSH/PSA	NO	PSH/PSA	NO	PSH/PSA	NO	PSH/PSA	NO I	PSM/PSA	i
1	1848.1	99.7 4.8361	22.49	5	0.90045	Ģ	0.92778 11	0.94988	16	0.98092	23	0.92322	29	1.05685	34	1.22995	35	4.74215	j
		82.4 9.8362	6.42	4	0.60858	7	0.96574 12	0.92474	17	0.94980	24	0.95739	30	1.86908	41	1.31195	36	1.21173	ļ
		66.8 0.0363	6.53		- · · · ·		1.00446 13												
		55.9 0.0367	6.45				0.99991 1												
	_	49,4 8,0370	6.3n			_	1.00598 15												
				*	23 .3955		<u> </u>			1.86216									
6	1356.5	46.4 0.4373	6.13																

RAME	PSA	PTC	SKIN(1)	SKINt21	SKIN[3]	SX14[4]	SKINCS	HODEL-STEMS	FEEDER-PIPE	TCH
1.	5.09	1486.81	1386.5	78.5	76.3	75.4	8.0	73.7	49.4	62.0
2	5,06	1417,06	1397.1	79.8	77,2	75.0		73.7	48.6	56.8
3	5,00	1424,43	1404.4	79.8	77,6	73.7	0.0	72.4	45.5	52.0
4	5.09	1431.60	1415.0	81.6	78.0	71.5	0.0	70.7	41.2	47,3
5	5.06	1440.74	1419.7	79.8	78.6	49.4		60,7	37.3	44.7
4	5.10	1432,85	1415.5	81,6	78.5	67.6	8.0	66.8	34.3	42.7

FR PTC TC P47/PTC PORT-22 NO PSH/PSA NO PSH/

						EGREES FAM	RENHEIT		TCH
PSA	PIC	SKIM[1]	SKINES!	SKIM[3]	SKINL41	2K1M(2)	MODEL-21140	PEEDER-FIFE	1011
5.05	972.85	958.1	75.9	74,6	74.1	0.0	68.5	37.7	55.5
5.06	977.59	963.4	77.6	75.9	74.6	8.0	67.6	38.6	52.9
5.09	976.01	965.0	76.7	76.3	74.1	0.0	67.2	37.7	50.7
5.06	983.38	967.1	78.9	76,7	74.6	0.0	66.8	37.7	46,8
5.09	987,59	976.0	78.0	76.7	73.3	0.0	64,6	34.7	46.0
5.09	990.22	977.1	78.0	76.7	72.8	0.0	63.7	32.5	44.2
	5.06 5.09 5.06 5.09	5.05 972.85 5.06 977.59 5.09 976.01 5.06 983.38 5.09 987.59	5.05     972.85     958.1       5.06     977.59     963.4       5.09     976.01     965.0       5.06     983.38     967.1       5.09     987.59     976.0	5.05     972.85     958.1     75.9       5.06     977.59     963.4     77.6       5.09     976.01     965.0     76.7       5.06     983.38     967.1     78.9       5.09     987.59     976.0     78.0	PSA         PTC         SKIN(1)         SKIN(2)         SKIN(3)           5.05         972.85         950.1         75.9         74.6           5.06         977.59         963.4         77.6         75.9           5.09         976.01         965.0         76.7         76.3           5.06         983.38         967.1         78.9         76.7           5.09         987.59         976.0         78.0         76.7	PSA         PTC         SKIN(1)         SKIN(2)         SKIN(3)         SKIN(4)           5.05         972.85         950.1         75.9         74.6         74.1           5.06         977.59         963.4         77.6         75.9         74.6           5.09         976.01         965.0         76.7         76.3         74.1           5.06         983.38         967.1         78.9         76.7         74.6           5.09         987.59         976.0         78.0         76.7         73.3	PSA         PTC         SKIN(1)         SKIN(2)         SKIN(3)         SKIN(4)         SKIN(5)           5.05         972.85         950.1         75.9         74.6         74.1         0.0           5.06         977.59         963.4         77.6         75.9         74.6         0.0           5.09         976.01         965.0         76.7         76.3         74.1         0.0           5.06         983.38         967.1         78.9         76.7         74.6         0.0           5.09         987.59         976.0         78.0         76.7         73.3         0.0	PSA PTC SKIN(1) SKIN(2) SKIN(3) SKIN(4) SKIN(5) MODEL-STING 5.05 972.85 958.1 75.9 74.6 74.1 0.0 68.5 5.06 977.59 963.4 77.6 75.9 74.6 0.0 67.6 5.09 976.01 965.0 76.7 76.3 74.1 0.0 67.2 5.06 983.38 967.1 78.9 76.7 74.6 0.0 66.8 5.09 987.59 976.0 78.0 76.7 73.3 0.0 64.6	5.05     972.85     950.1     75.9     74.6     74.1     0.0     68.5     37.7       5.06     977.59     963.4     77.6     75.9     74.6     0.0     67.6     38.6       5.09     976.01     965.0     76.7     76.3     74.1     0.0     67.2     37.7       5.06     983.38     967.1     78.9     76.7     74.6     0.0     66.8     37.7       5.09     987.59     976.0     78.0     76.7     73.3     0.0     64.6     34.7

TC P47/PTC PORT-22 NO PSM/PSA NO PSM/PSA NO PSM/PSA NO PSM/PSA NO PSM/PSA NO PSM/PSA NO PSM/PSA NO PSM/PSA 5 0.88440 6 8.88858 11 0.96445 16 0.94158 23 0.93548 29 8.94691 34 0.96750 35 0.97436 971.3 56.4 8.8373 4 0.77918 7 0.96598 12 0.95301 17 8.98941 24 0.97131 30 0.96148 41 0.98961 36 1.17183 975.5 53.8 0.0374 3 8.98351 8 8.98558 13 8.93472 18 8.91642 25 8.92862 31 8.99342 42 1.01019 37 1.06128 3 976.5 52.0 0.0375 2 1.31363 9 1.00943 14 0.93853 19 8.94310 26 6.98956 32 1.84298 39 0.98504 38 1.08110 982.6 48.1 0.0374 5.05 1 1.41656 18 0.99037 15 0.99723 28 0.96598 27 0.93700 33 1.80410 40 1.01706 43 0.99876 986.5 47.3 8.0375 5.08 21 0.96826 28 0.95301 988.6 44.7 8.8376 5.89

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1:1

TCH	FEEDER-PIPE	RENHETT HODEL-STING	SKIN[2]	SKIN(4)	SKIN(3)	SKINIZ)	SKINGI	PTC	PSA	RANE
56,4	36,8	70.2	0.0	75.4	75,4	78.8	496.0	502.85	5,20	1
53.8	36.8	69.4	0.0	75.9	75.9	78.9	498,6	506.01	5.19	2
52.0	35.4	68.5	0.8	76.3	76.7	79.3	500.7	508.64	5.21	3
50.3	35.1	67.6	8.0	76.7	77.2	79.8	582.8		5.17	4
48,1	34,3	67,6	0.0	77,2	78.6	79.8	.583.4	510.74	5.29	5
46.9	33.4	56.8	8.8	77.2	77.6	80.2	583.9	_	5.25	6

FR	PTC	TC P47/PTC	PORT-22	NO	PSM/PSA	NĐ	PSH/PSA	NO	PSM/PSA	NO	PSH/PSA	NO	PSH/PSA	NO	PSM/PSA	MO	PSH/PSA	NO	PSH/PSA	
	501.3																9.96711			
_		55.5 0.0381															4.88677			
_																	0,82141			
_		53,3 0,0381															0,00134			
4	509.7	25.0 9.0365	2,04														0.61620			
5	589.7	49,4 0.0381	5.04												7305900		<u> </u>	:=-	_# * T# T ( <u>.</u>	
6	589.7	47.7 0.0383	5.08							51	_0.96785	58	0.93514							

							EGREES FAHREI	NHEIT DEL-STING FEE	DER-PIPE	764
FRANE	PSA	PTC	SKIN[1]	SKIN(5)	SKIN(3)	SKIN(4)	Skinis) un	pre- 011.40		
•	5.15	501.80	495.0	101.9	184.9	103.2	0.0	155.2	475.1	245.8
	-	504.43	498.1	102.7	104.9	103.2	0.0	156.7	431.c	232.8
2	5.18	204.43	_	- '	104.0	103.6	Е0	161.3	391.5	215.1
3	5.21	510.22	500.2	101-4	104.0	105.0			355.≎	205.1
4	5.17	509.16	502.8	100.6	104.0	103.2	0.0	162.1	322.7	20
•			7.5 F	100.6	102.7	103.6	9.0	161.7	320.8	169.9
5	5.17	512.32	505.5	100.0	202.	•		460 6	288.3	175.1
6.	5,16	516.01	508.1	100.1	102.3	104.0	0.0	160.6	20010	• • • • • • • • • • • • • • • • • • • •

FR PTC TC P47/PTC PORT-22 ND PSH/PSA NO PSH/PSA ND PSH/

HIND TUNNEL TEST CONDITIONS..... Q 7.752 PT 18.015 PS 5.173 R/L 5.3 MACH 1.000 MODEL ATTITUDE...... ALPHA 0.00 BETA 0.80 ROLL 0.0 PTC/PSA= 98.17 PSH[22]/PSA= 1.0511 AVERAGE MODEL/NOZZLE PARAMETERS.. PTG= 507.8 TC= 211.3 PTC/PSA= 98.17 PSH[22]/PSA= 1.0511 HEATER PARAMETERS... HEATER TOTAL PRESSURE= 600. HEATER TOTAL TEMPERATURE= 0.

	FRANE	PSA	PYC	SKIN[1]	SK1#(2)	SKIN(3)	SKINIAI	SKIN(5)	RENHETT HOBEL-STING	FEEDER-PIPE	TCH
· .	1	7.34	586.53	502,3	102.3	102.3	184.9	0.0	114.5	205.5	132.2
	2	7.34	511.27	506.5	101.4	102,3	184.5	0.0	114.5	183.4	123.1
	3	7.36	515.48	518.2	100.6	181.9	184.0	1.0	114.5	164,3	114.0
- <del></del>	•	7,36	519.69	514.4	180.6	161.4	143.2	6.0	113.2	145.2	105.8
	5	7.35	510.11	513.9	101.4	191,4	103.6	8.0	112.7	130.5	95.2
	<b>A</b>	7,35	921.27	517.1	99,7	180,6	182.7	0.6	110.6	115.6	90.3

PTC TC P47/PTC PORT-22 NO PSH/PSA NO PSH/PSA NO PSH/PSA NO PSH/PSA NO PSH/PSA NO PSH/PSA NO PSH/PSA NO PSH/PSA 6.73 5 0.89246 6 8.99139 11 8.96561 16 1.88139 23 0.94193 29 1.82778 34 0.98141 35 1.11242 584.5 188.8 4.8300 4 8.76891 7 8.87824 12 8.97771 17 1.84191 24 9.99297 38 1.81823 41 8.73382 36 8.99560 4.73 518.7 124.9 8.6382 3 8.95667 8 0.97876 13 0.94351 18 1.81716 25 8.92983 31 0.98887 42 8.74487 37 1.01718 6.75 513.4 114.5 2:4381 2 1.28818 9 0.99244 14 0.99358 19 1.88587 26 1.88928 32 8.97771 39 8.74144 38 8.92562 519.2 107.5 0.0380 6.74 1 1.35817 18 0.97561 15 1.08034 20 0.99613 27 1.02928 33 0.98613 48 0.75617 43 0.74512 4.75 517.1 97.5 8.0381 21 6.94930 28 1.02560 520.7 91.9 0,6381

HIND TUNNEL TEST CONDITIONS..... Q 7.507 PT 18.815 PS 7.351 R/L 5.4 MACH 1.288 TEMP 183.3 MODEL ATTITUDE...... ALPHA 8.62 BETA 8.88 ROLL 8.8 AVERAGE MODEL/NOZZLE PARAMETERS.. PTC= 514.6 TC= 111.6 PTC/PSA= 70.01 PSM1221/PSA= 8.9178 HEATER PARAMETERS.... HEATER TOTAL PRESSURE= 648. HEATER TOTAL TEMPERATURE= 0.

•					YENPERATU	RE DATAD	EGREES FAH	ENHEIT		TCH
FRAME	PSA	PTC	SKIW[1]	SKIN[2]	SKINI33	SKINE43	SKIN(5)	10DEF-21 IME	FEEDER-PIPE	
	•	- A 45 49	1032.8	87.1	84.1	86.3	0.0	81.1	54.6	61.1
1	7,38	1045.48				86.7	0.0	79.3	50.7	55.9
2	7.36	1050.74	1038,1	86.7	84,5			77.0	46.4	51.6
3	7.36	1054.95	1045.8	87.1	85.0	86.7	0.0	77.2		
	-		1044.4	86.7	85.0	85.4	0.0	74.6	41.6	47.7
•	7.37	1053.90	184414			4E A	0.0	73.3	38.2	43.8
· 5	7.37	1069,69	1854.4	88.0	, 86,3	85.0	. 9.4			41.6
6	7.36	1864.95	1051.3	87.1	85.8	83.2	0.0	70.2	33,0	41.0

	0-7 (070	PORT-22 NO PSH/PSA NO PSH/PSA NO PSH/PSA NO PSH/PSA NO PSH/PSA NO PSH/PSA NO PSH/PSA NO PSH/PSA
FR PTC	TC P47/PTC	7.14 5 0.89178 6 8.99777 11 0.96522 16 1.00565 23 0.93083 29 1.82876 34 0.95366 35 1.12381
1 1045.	5 61.6 0.8373	7.14 5 0.59176 6 8.99777 11 0.70222 13 1.5030 00 00725 30 1.61368 41 8.95786 36 8.99567
2 1048.	6 57.7 9.8374	7.16 4 0.76198 7 0.98307 12 0.97572 17 1.04294 24 0.99725 30 1.01300 41 0.95786 36 0.99567
	9 52.5 8.6373	7 0 04946 8 8-97309 13 0.93738 18 1.01458 25 0.92425 31 8.97317 42 0.7712
		0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
4 1054.	4 48.6 0.0375	7.18 2 1.28018 9 6.77200 17 0.7720 22 22 22 22 23 6.98832 48 8.98622 43 8.97834 7.20 1 1.36223 18 8.97414 15 1.88198 28 8.99935 27 1.62246 33 8.98832 48 8.98622 43 8.97834
5 1669,	7 44,7 0,0371	7,20 1 1.36223 10 0.97414 15 1.00198 26 0.99932 27 1,000
6 1863.	9 42,9 0,8375	7,21

WIND TUNNEL TEST CONDITIONS..... Q 7.497 PT 18.682 PS 7.366 R/L 5.4 NO. CONDITIONS..... ALPHA 8.02 BETA 0.08 ROLL 8.8 NO. CONDITIONS..... ALPHA 8.02 BETA 0.08 ROLL 8.8 NO. CONDITIONS.... ALPHA 8.02 BETA 0.08 ROLL 8.8 NO. CONDITIONS.... ALPHA 8.02 BETA 0.08 ROLL 8.8 NO. CONDITIONS.... ALPHA 8.02 BETA 0.08 ROLL 8.8 NO. CONDITIONS.... NEATER TOTAL PRESSURE 1200. HEATER TOTAL TEMPERATURE. 8.0 NO. CONDITIONS.... NEATER TOTAL PRESSURE 1200. HEATER TOTAL TEMPERATURE.

AME	PSA	PTC	5K [# [1 ]	SKINI21	SRIN[3]	SKIM[4]	SKIN(5) HO	NHETT	BER-PIPE	TCH
	7,36	1527,59	1510.7	81.1	78.9	78.9	8.0	72.0	46.4	58.1
<u>.</u>			1520.2	82.4	79.8	78.0	0.0	70.7	44,7	53.3
2	7.35	1537,59		62.8	81.1	76.3	B.6	69.4	40.8	47.7
3	7.35	1549.69	1531.3			74.1	8.1	67.6	37.7	43.4
•	7,36	1543.90	1525.5	84.1	81.1		0.0	65.5	33.6	40.8
5	7,36	1477.06	1455.5	83.2	81,5	72.0			31.2	36,•
6	7,36	1349.22	1324.4	85.4	82.5	71.1	<u>0</u> • <u>,</u> 0	64,2		

PORT-22 NO PSH/PSA NO PSH/PSA NO PSH/PSA NO PSH/PSA NO PSH/PSA NO PSH/PSA NO PSH/PSA IC P47/PTC 5 0.88998 6 0.99616 11 0.96620 16 1.88195 23 0.93256 29 1.82665 34 1.07922 35 1.12128 7.99 1 1529.2 59.4 0.0366 4 0.76224 7 0.97724 12 0.97471 17 1.94242 24 5.99511 38 1.81456 41 1.12653 36 8.99616 2 1538.1 54.2 8.9367 8.45 3 0.94833 8 0.97251 13 0.93939 18 1.01667 25 0.92835 31 0.97724 42 1.14493 37 1.01614 8.18 3 1549.7 2 1.28949 9 0.99038 14 0.99406 19 1.80457 26 1.00405 32 0.98197 39 1.13818 38 1.07344 44.7 0.0366 4 1545.0 1 1.36467 18 8.97461 15 1.00195 28 1.00195 27 1.02140 33 1.88457 40 1:13599 43 1:13179 5,03 5 1477.1 41.6 0.0369 21 0.96628 28 1.92835 7,77 6 1348.2 37.7 4.6372

KUN 319/0

FRAME	PSA	PTC	SKIW(1)	SKIN[2]	SKIN(3)	RE DATAB Skimi41	EGREES FAHI SKIN(5)	RENHEIT RODEL-STING	FEEDER-PIPE	TCH
r Nanc	7,37	1796-01	1770.7	79.3	77.2	78.0	0.8	_ 69.4	37.7	63.3
5	7,35	1793.38	1775.0	80.2	77.6	75.4	0.8	68.9	41.6	57.7
3	7,35	1810.22	1789.2	81-1	78.5	73.3	0.0	67.6	41.6	52.9
4	7.36	1807.59	1789.7	82.4	79.3	71.1	0.6	67.2	40.3	47.3
5	7,37	1699,17	1677.1	62,6	79,8	66.5	0,6	65.5	36.4	42.5
6	7.37	1513.38	1497.1	81.5	7 <u>9 . B</u>	66.3	0.0	63.3	32.1	38.6

FR PTC TC P47/PTC PORT-22 NO PSM/PSA NO PSM/

1-13

<b>TOWE</b>	ue.	PTS	SK[N(1)	SKINIZI	TEMPERATU SKIN(3)	RE DATA-√-D SKINL#1	EGREES FAHRE SKIN(5) HO	NHEIT DFL-STING FE	EDER-PIPE	TC"
FRANE	PSA	1854.43	1823.4	95.4	94.1	93.6	0.0	109.7	160.8	93. 9
2	7,41 7,44	1855.48	1837.6	94.9	93,5	91,9	0.6	106.7	124.9	75.1
<u>-</u> خ	7.44	1854.95	1831.3	93.2	93.2	88.9	0 + 0	103.6	90.8	63.7
4	7.47	1817.06	1796.5	93.6	92.8	85.8	0 • 0	99.3	78.5	54.2
5	7.52	1652.85	1638.1	94.5	92.8	83.2	0.0	94.5	64.2	48.5
6	7,55	1486.53	1474.4	92.8	92.8	79.8	0.0	89.7	53.8	42.9
Ū	, , , ,		-							

FR PTC TC P47/PTC PORT=22 NO PSH/PSA NO PSH/

800g

							EGREES FAHREN	HEIT		TCH
FRAME	PSA	PTC	SKIN[1]	SKINISI	SKIN[3]	SKINE41	SKIMINI MOD	CL-SIING FEE		
<u>.</u>	10.54	1841.27	1820.2	94.5	92.8	88.0	9.0	87.1	48.5	61.1
2	10.53	1856.01	1837.6	92.8	92.8	84.1	4 - 6	54.1	45.5	<b>\$</b> 5.5
3	10.53	1859.69	1837.6	93.6	92.8	81.5	0.0	81.5	42.5	4°.[
4	10.53	1740.22	1721.8	93.6	92.8	77.6	0.0	78.0	37.7	42.5
5	10.50	1567.06	1546.8	92.3	92.3	73.7	0.0	74.1	32.1	39.9
6	10.59	1404.95	1389.2	02.8	91.5	71.1	0.0	72.0	28,6	36.9

TC P47/PTC PORT-22 NO PSM/PSA NO PSM/PSA NO PSM/PSA NO PSM/PSA NO PSM/PSA NO PSM/PSA NO PSM/PSA NO PSM/PSA FR 5 0.99763 6 8.97891 11 0.96166 16 1.00791 23 0.96203 29 1.03470 34 1.08462 35 1.05012 1 1843.4 62.9 8.0361 11.58 11.52 4 0.95432 7 8.96423 12 0.96974 17 1.04718 24 0.96385 38 1.83324 41 1.89637 36 1.05386 3 0.87687 8 0.98699 13 0.97891 18 1.02736 25 0.95762 31 1.04058 42 1.11509 37 1.86260 11.55 3 1857.6 50.3 0.0360 2 1.08389 9 0.97891 14 0.98992 19 1.03434 26 0.98919 32 1.85085 39 1.08683 38 1.09233 4 1746.8 44.2 0.8365 11.46 1 1.15546 10 0.96166 15 1.00020 20 1.03581 27 1.00534 33 1.05049 40 1.07361 43 1.07545 11.25 5 1565.5 41.2 0.0367 21 0.99984 28 1.01782 6 1404.4 38.2 8.0372

					TEMPERATU	RE DATAD	EGREES FAHR	ENHELT	****	****
FRAME	PSA	PTC	SKIN[1]	SKINISI	SKIN[3]	SKIN(4)	SKIN(5) M	DUEL-STING	FFEDER-PIPE	TCH
1	1(.52	1872.85	1854.4	110.1	111.0	993	0.8	170.4	466.0	196 0
2	10.62	1883.90	1863.4	109.7	109.7	99.3	0.0	172,1	352.9	151.7
3	10.61	1873.38	1859.2	109.7	109.7	99.7	0.0	169.1	266.6	116.¢
	10.62	1839.17	1630.7	108.4	108.4	100.1	0.0	160.4	198:1	96.2
5	10.59	1707.06	1688.1	109.3	108.4	99.7	0.0	152.6	150.4	72.4
6		1529.69	1515.0	106.4	107.5	97.1	0.0	148.9	114.9	62.0

FR PTC TC P47/PTC PORT-22 NO PSH/PSA NO PSH/

## MSFC TRISONIC WIND TUNNEL HUNTSVILLE, ALABAMA PLUME TECHNOLOGY TEST... HON- GUIESCENT PHASE

						RE DATAD	EGREES FAHREN	EL-STING	THE PE	TCH
FRAME	PSA	PTC	SKIN[1]	SKIN[2]	SKIN(3)	SKIN[4]	2414131 1100			58.5
		4700 44	1369.7	89.3	88.9	86.7	ة و ق	79.3	.7.3	50.7
1	10.51	1388.11	10074	•		84.1	9.0	77.2	35.0	55,5
2	10.53	1405.48	1387.1	89.3	88.4	04.1		<b>3</b> E 4	74.E	51.6
		1409.69	1396.0	98.2	86,9	82.4	0.0	75.4	. 7.6	
3 .	10.53				89.7	79.8	0.0	74.5	38.2	46.8
4	10.54	1423.90	1408.6	91.9				71.1	35,6	43.8
_	10.53	1424,43	1408.1	91.0	89.7	77.2	0.0	7212		
5	10.33			91.0	89.3	74.6	0.0	69.4	32.1	42.1
6	10.53	1414.95	1402.8	71.0	•					

TC P47/PTC PORT-22 NO PSH/PSA NO

MIND TUNNEL TEST COMBITIONS..... Q 6.101 PT 10.868 PS 10.327 R/L 5.1 MACH 6.716 TENT TOTAL TENT TOTAL TENT TOTAL TENT TOTAL TENTER TENTER TOTAL TENTER TOTAL TENTER TENTER TENTER TENTER TENTER TENTER TENTER TENTER TOTAL TENTER TENTER TENTER TENTER TENTER TENTER TENTER TENTER TENTER TENTER TENTER TENTER TENTER TENTER TENTER TENTER TENTER TENTE

FR	ME	PSA	PTC	<b>EXINITY</b>	SRIN(2)	SRINE33	SKIN(4)	BKIN(5)	RENHETT	EDER-PIPE	TCH
	1	19.56	933.38	921.8	87.6	86.7	86,3	0.0	77.6	37.3	58.
. <b>.</b>	2	10.54	939.69	928.1	\$8.9	87.6	85.6	6,6	76.3	38.4	53.
	3	10.56	950.22	935.0	98.2	88,4	86.3	0.8	75.4	37,7	49,
	. T	10.56	952.65	948.2	88,4	87.6	85.4	8.0	72.8	36.0	47,
 . ·	5	10.56	956,01	945-8	80.9	88,4	84.1	0.0	70.7	32.1	44,
	*	18.58	957.46	745.0	91.0	89,3	83.7	0.0	69.4	29.5	48.

FR	PTC	TC P47/PTC	PORT-22 NO PSH/P:	SA NO PSH/PSA NO PSH/PSA NO PSH/PSA NO PSH/PSA NO PSH/PSA NO PSH/PSA
1	932.3	59.4 0.4374	18.30 5 8.996	72 - e.978e4 11 e.95423 16 e.98427 23 e.95863 29 1.88698 34 e.96559 35 1.84178
		54.2 0.0374		40 7 8.96595 12 8.96539 17 1.82346 24 8.96412 38 8.99945 41 8.96942 36 1.83262
3	949.7	50.7 0.0373	18,35 3 0.886	68 8 8,98834 13 8,97188 18 8,99343 25 6,95138 31 8,89636 42 8,98178 37 1,83879
4	952.3	48.6 0.0373	10.35 2 1.652	44 9 8.97731 14 8.97731 19 0.99416 26 0.97694 32 8.99746 39 8.96669 38 0.99123
5	955.0	45.1 8.8374	18.37 1 1.156	43 18 8.96339 15 8.99858 28 8.89599 27 8.99559 33 8.99343 48 8.97328 43 8.98134
		41.2 0.0375	_	21 8.96449 25 1.88185

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1551 575 999 323/8

FRAME	PSA	PTC	SKIN[1]	SKINIS	SKIN(3)	RE DATAD Skin[4]	EGREES FAHRE SKIN(5) NO	NHEIT DEL-STING FEE	DER-PIPE	TCH
. 1	10.62	464.43	459.7	87.6	86.3	86.7	0.0	78.0	36.4	62,4
2 .	10.61	463.3B	459.2	87.1	86.7	86.7	0.0	77.2	36.9	61.1
ź	10.60	468.64	463.4	88.0	87.6	87.6	0.0	75.9	36.9	58.1
4	10.60	471.80	465.5	89.3	68.0	88.0	8.0	75.0	37.3	55.5
>	10.60	477.59	470.2	89.7	88.4	88.4	0.0	75.G	36.0	53.8
. 6	10.62	479,16	473,4	91.0	89.3	88.9	0.0	74.1	35.6	51.2

FR	PTC	TC P47/PTC	PORT-22	NO	PSM/PSA	NO	PSH/PSA	NO	PSH/PSA	HO	PSM/PSA	NO	PSH/PSA	NO	PSH/PSA	₩D	PSM/PSA	NO	PSH/PSA	
1.	463.4	62,9 0,0387	9,46	5	0.99676	6	0.97963	11	6.95520	16	0.97598	23	0.95958	29	0.99713	34	0.87536	35	1.04270	
2	462.3	61.6 0.8383	9,44	4	8.95381	<u>. 7</u>	0.76687	12	0.96286	17	1.01317	24	a.965g5	30	0.98510	41	6.84291	36	1.02301	
<b>.</b> 3	468.1	58.5 0.0382	9.45	3	8.88381	8	4.98891	13	0.96687	18	8.97744	25	0.94986	31	0.97525	42	8.84874	37_	1.01426	
		54.8 0.9380	9,45	2	1.07989	9	a.97671	14	0.97051	19	0.97270	26	0.97015	32	9.96796	39	8.84189	38	9.90343	
•		55.5 0.0381	9,46	1	1.15171	10	8,94359	15	0.98327	29	9. <b>76</b> 650	27	0.986/4	33	8.94791	46	0.84473	43	0.85130	-
:	•	52.0 9.8381									8.94244				···				· · ·	

MIND THUNEL TEST CONDITIONS	Q 4.055 P	T 18-984 PS	10.689 R/L	5.1 HAC	H 4,983 TEMP	162.5
WIND TUNNEL TEST CONDITIONS	ALPHA 8.00	BETA 9.00	ROLL 9.0 PTC/PSA= 44.2		21/PSA= 0.8914	
AVERAGE MODEL/NOZZLE PARAMETERS	PYSE 467.8	TC= 57.9	- JE-TER TOTAL	TENPERATURE		
-HERIEM PRESENTATION OF PARTIES AND A CO.	AMENIEN IMINE A	####### ####	***************************************			

P-15

	FRAME	PSA	PŢÇ	SKIN[1]	\$K[#[2]	SKIN[3]	SKIN(4)	SKINISI	MODEL-STING	FEEDER-PIPE	TCH
	1	7.56	1488,11	1467.1	90.2	93.2	97.5	0.0	197.3	426.1	397.1
	5	7.56	1479.17	1459.2	98.2	93,6	99.3	0.0	212.4	443.5	415.3
	3	7.96		1467.1	91.0	93.6	101.0	0.0	228.0	457.4	430.9
	4	7.57	1502.32	1498.7	70.2	93.6	183.2	6.0	242.3	469.5	442.2
	5	7.56	1482.32	1469.2	<b>30.</b> 6	94.1	186.2	0.0	256.6	489.8	448.7
•	6	7,57	1441,68	1429.7	92.8	94.9	109.7	9.0	269.6	400.1	451.7

PORT-22 NO PSM/PSA NO PSM/PSA NO PSM/PSA NO PSM/PSA NO PSM/PSA NO PSM/PSA NO PSM/PSA 5 0.98456 6 1.88274 11 0.98875 16 1.81888 23 0.91172 29 1.81246 34 1.82166 35 1.13978 7,77 1 1491.3 394,7 0.0364 4 0.86536 7 0:95814 12 0:94598 17 1:04007 24 0:99967 30 0:98587 41 1:05336 36 1:01656 7.77 2 1485.5 414.4 6.0363 3 0.95774 8 1.00376 13 0.96183 18 0.99916 25 L 37604 31 0.97922 42 1.06819 37 1.01868 7,79 3 1473,4 430,9 8.0369 2 1.28244 9 8.98842 14 1.08274 19 8.99288 26 1.88663 32 8.98268 39 1.85745 38 1.82217 4 1502.3 441.7 0.0365 7.79 1 1.32949 10 8.98842 15 1.81501 26 0.98484 27 1.04007 33 8.98638 40 1.06666 43 1.85899 5 1482.8 448.7 8.8365 21 0.96695 28 1.03189 6 1441.3 451.7 0.8367 7,74

ORIGINAL PAGE IS OF POOR QUALITY

		*.			,	-TEMPERATURE		GREES FAHREN SKIN(5) HOD	HEIT		TCH
:	FRANE	PS.	PTC	SKIN[1]	SKINT21	SKIN[2]	SKINE43	SKIRES! NOU	)CF-31[40 )	CENC I. C	
		7.53	1228.64	1222.8	138.7	153.0	150.0	96	216.3	435.7	395.8
	1		1226.01	1212.8	137.4	150.0	147.4	0.0	228.0	446.1	409.2
٠.	2	7.54			135.3	147.0	146.5	0.0	239.7	456.1	422.2
	3	7,53	1238.11	1226.1	, – •	144,4	145.7	0.0	252.3	465.6	432.6
	4	7.54	1250.74	1240.2	133.1		144.8	0.0	262.3	473.0	439.1
	5	7.56	1282.65	1269.7	130.5	141.8	*****	•••			444.3
	6	7.55	1292.85	1279.7	128.8	138.7	144.8	0.0	272.2	479.0	444.0
	FR PTC	TC P47/I		NO PSH/PS/	2 6 1.00868	1 0,98163	16 1.0118	23 6.91239	29 1.8154	8 34 6.97393	35 1.13190
		489.7 8.0		4 8.88520	7 8.9.584	12 0.95137	17 1.0436	B 24 0.99967	30 8.9862	4 41 9.98778	36 1.01137
<b>→</b>		421.8 0.0		3 9,9598	6 8 1.6957	3 13 0.95393	18 1.0006	25 0.92880	31 6.9795	8 42 1.80112	37 1.02214
	-	432.2 0.0	_	2 1.2826	8 9 0.9847	1 14 1.88681	19 0.9944	5 26 1.08573	32 6.9862	24 39 0.99342	38 0.98727
		438.3 0.0		1 1.3288	4 18 8.9888	1 15 1.81445	5 28 0.9816	3 27 1.03650	33 0.981	3 40 1.01291	43 1.004
		443.5 0.0						3 28 1.03394			

						S- 54 - 1 - 5	ZABEES STU	MENUETT:		
FRANE	PSA	PTC	<b>3</b> (1)(1)	<b>3</b> K18(2)	ZKINIZI JENDENATO	SKIN(4)	SKIN(5)	HODEL-STING	FEEDER-PIPE	TCH
4	••		1607.2	114.9	117.5	118.8	6.0	152.2	148.3	102.7
<del></del>	_			114.9	115.8	116,2	0.0	146,5	121.6	101.5
				113.6	114,9	113.2	0.0	140,5	110.6	113.2
					114,5	111,4	1.0	135,3	111.0	122,3
. ".						101.3	1.0	125.5	115.3	127.0
?	1.21	1381.84		110-1	114.8	100.4	0.6	130.1	119.7	130.5
	FRANE  1  2  3  4	1 1.21 2 1.81 3 1.21 4 1.21 5 1.61	1 1.21 1836.89 2 1.81 1772.36 3 1.21 1661.31 4 1.21 1568.26 5 1.61 1464.47	1 1.21 1836.85 1669.2 2 1.21 1772.36 1747.6 3 1.21 1661.31 1633.9 4 1.21 1568.26 1533.4 5 1.21 1464.47 1439.2	1 1.21 1836.85 1889.2 114.9 2 1.21 1772.36 1747.6 114.9 3 1.21 1661.31 1633.9 113.6 4 1.21 1568.26 1533.4 111.4 5 1.21 1464.47 1439.2 111.9	FRAME PSA PTC SKIM(1) SKIM(2) SKIM(3)  1 1.21 1836.85 1889.2 114.9 117.5  2 1.81 1772.36 1747.6 114.9 115.8  3 1.21 1661.31 1638.9 113.6 114.9  4 1.21 1568.26 1933.4 111.4 114.5  5 1.21 1464.47 1439.2 111.9 113.6	FRAME PSA PTC #KIN(1) SKIN(2) SKIN(3) SKIN(4)  1 1.21 1836.85 1887.2 114.9 117.5 118.8  2 1.21 1772.36 1747.6 114.9 115.8 116.2  3 1.21 1661.31 1633.9 113.6 114.9 113.2  4 1.21 1568.26 1533.4 111.4 114.5 111.4  5 1.21 1464.47 1439.2 111.9 113.6 189.3	FRAME PSA PTC SKIM(1) SKIM(2) SKIM(3) SKIM(4) SKIM(5)  1 1.21 1836.85 1889.2 114.9 117.5 118.8 6.0  2 1.81 1772.36 1747.6 114.9 115.8 116.2 8.8  3 1.21 1641.31 1633.9 113.6 114.9 113.2 8.8  4 1.21 1568.26 1933.4 111.4 114.5 111.4 9.8  5 1.81 1464.47 1439.2 111.9 113.6 189.3 8.8	FRAME PSA PTC SKIMI1 SKIMI21 SKIMI31 SKIMI41 SKIMI51 HODEL-STIME  1 1.21 1836.85 1889.2 114.9 117.5 118.8 8.0 152.2  2 1.81 1772.36 1747.6 114.9 115.8 116.2 8.8 146.5  3 1.21 1661.31 1633.9 113.6 114.9 113.2 8.0 148.5  4 1.21 1568.26 1533.4 111.4 114.5 111.4 9.6 135.3  5 1.81 1464.47 2439.2 111.9 113.6 189.3 8.6 132.2	1 1.21 1836.85 1889.2 114.9 117.5 118.8 6.0 152.2 148.5 2 1.21 1772.36 1747.6 114.9 115.8 116.2 6.8 146.5 121.8 3 1.21 1641.31 1633.9 113.6 114.9 113.2 0.0 140.5 110.6 4 1.21 1560.26 1533.4 111.4 114.5 111.4 9.8 135.3 111.8 5 1.21 1464.47 1439.2 111.9 113.6 100.3 9.8 132.2 115.3

	PIC	TC P47/PTC	PORT-22	NO PSH/PSA	NO PSH/PSA	NO PSH/PSA	NO	PSM/PSA	NO	PSM/PSA	NO	PSH/PSA	NO	PSH/PSA	NO	PSH/PSA	
	-			E a. 66145	A 0.48954	11 0,92395	16	e,93832.	23	0.69336	29	8.87616	3,	1.16799	35	6.78822	
		104.0 0.0360		A A 00744	2 0 07000	12 8,94888	17	0.0000	24.	8.96489	30	8.8646\$	41	1,45262	36	4.89463	_
		184.0 0.8362		4 6-89370		13 0.94179	4.8	a. 93032	25	n.94370	31	8.86277	42	1,42861	37	0.93159	
3	1645.5	115.3 0.0362	1.67	3. 3. >2374	0 0.74380	14 0.92267	10		28	a. 9a865	32	0.87106	39	1.09727	38	1.12148	
	1557.6	123.1 8.0364	1.61	2 3.82259	7 0.97840	14 0.72207	27	9.70002	27	0 99140	33	0.87169	40	1.34459	43	1.33813	
:	1468.2	120.0 0.0364	1.59	1 3.82259	10 0.94561	15 0.95198							<u>:×</u>		= .	.रा प्र <sup>ा</sup> =	
	1361.3	131.6 0.0367	1.53				21	1.86255	Z	8.57797							<del>-</del>

•				TEMPERATI	RE DATAD	EGREES FAHR	ENHETT		
PSA	PTC	SKIN(1)	2K1#[5]	SKIN[3]	SKIN[4]	SKIN(5) H	IDDEL-STING	FEEDER-PIPE	TCH
1.21	974.99	961.3	98.4	101.4	101.0	0.0	113.2	139.2	108.4
1.21	981.31	965.0	98.8	108.4	99.7	0.0	112.7	122.7	96.7
1.21	987.10	972.4	98.0	99.7	99.3	0.0	110-1	106.7	86.7
1.21	990,26	979.2	96.7	99.3	98.4	0.0	198.4	92.8	78,5
1.21	994.99	979.7	97.1	98.8	97.1	0.0	184.5	80.2	69.4
1.21	998.15	985.0	95.4	97.5	96.2	0.0	101.0	69.8	64.6
	1.21 1.21 1.21 1.21 1.21	1.21 974.99 1.21 981.31 1.21 987.10 1.21 990.26 1.21 994.99	1.21     974.99     961.3       1.21     981.31     965.0       1.21     987.10     972.4       1.21     990.26     979.2       1.21     994.99     979.7	1.21     974.99     961.3     98.4       1.21     981.31     965.0     98.8       1.21     987.10     972.4     98.0       1.21     990.26     979.2     96.7       1.21     994.99     979.7     97.1	PSA PTC SKIN[1] SKIN[2] SKIN[3]  1.21 974.99 961.3 98.4 171.4  1.21 981.31 965.0 98.8 108.4  1.21 987.10 972.4 98.0 99.7  1.21 990.26 979.2 96.7 99.3  1.21 994.99 979.7 97.1 98.8	PSA PTC SXIN(1) SKIN(2) SKIN(3) SKIN(4)  1.21 974.99 961.3 98.4 101.4 101.0  1.21 981.31 965.0 98.8 108.4 99.7  1.21 987.10 972.4 98.0 99.7 99.3  1.21 990.26 979.2 96.7 99.3 98.4  1.21 994.99 979.7 97.1 98.8 97.1	PSA PTC SKIN[1] SKIN[2] SKIN[3] SKIN[4] SKIN[5] PTC SKIN[1] SKIN[2] SKIN[3] SKIN[4] SKIN[5] PTC SKIN[5	PSA PTC SKIN[1] SKIN[2] SKIN[3] SKIN[4] SKIN[5] HODEL-STING  1.21 974.99 961.3 98.4 101.4 101.0 0.0 113.2  1.21 981.31 965.0 98.8 108.4 99.7 0.0 112.7  1.21 987.10 972.4 98.0 99.7 99.3 0.0 110.1  1.21 990.26 979.2 96.7 99.3 98.4 0.0 188.8  1.21 994.99 979.7 97.1 98.8 97.1 0.0 184.5	1.21     974.99     961.3     98.4     161.4     101.0     0.0     113.2     139.2       1.21     981.31     965.0     98.8     108.4     99.7     0.0     112.7     122.7       1.21     987.10     972.4     98.0     99.7     99.3     0.0     110.1     106.7       1.21     990.26     979.2     96.7     99.3     98.4     0.0     108.6     92.8       1.21     994.99     979.7     97.1     98.8     97.1     0.0     104.5     80.2

FR PTC TC P47/PTC PORT-22 NO PSH/PSA NO PSH/

MIND TUNNEL TEST CONDITIONS..... 0 10.200 PT 90.819 PS 1.214 R/L 10.4 MACH 3.488 TEMP 189.6
MODEL ATTITUDE...... ALPHA 0.02 BETA 0.06 ROLL 0.0
AVERAGE MODEL/MOZZLE PARAMETERS.. PTC= 987.9 TC= 85.6 PTC/PSA= 813.56 PSH(22)/PSA= 0.9918
MEATER PARAMETERS..... HEATER TOTAL PRESSURE= 1880. HEATER TOTAL TEMPERATURE= 620.

				00	SKIN(1)	\$K1H[2]	TEMPERATUI	SKIN(4)	EGREES FAI SKIN(5)	HRENRETY MODEL-STING	FEEDER-PIPE	TCH
	FRAME		PSA	PTC	<u> </u>	99.3	182.7	104.9	5 · B	122.7	291.3	210.7
		Militar Otak	1.22	433.90	427.1	98.4	101.9	104.9	0.0	126.2	283.5	209.0
	. 2		1.22	430,22	422.3		101.0	103.6	0.0	138.9	274.0	214.
المستدار المبيدي			1.22	433,90	425.5	98.0	99.7	102.3	0.0	134.8	266.6	216.
	4	<u> </u>	1.21	432,32	426.5			104.0	0.0		261.8	216.
	5	1 1	1,21	433,90	427,6	97.1	100.1		0.0		257.1	218.
	•	. : . `	1.22	433,90	429.7	94.5	98.4	102.3				

FR PTC IC P47/PTC PORT-22 NO PSM/PSA NO PSM/

WIND TUNNEL TEST CONDITIONS..... G 10.296 PT 90.073 PS 1.215 R/L 10.6 MACH 3.480 TEMP 103.2

MODEL ATTITUDE..... ALPHA 0.00 SETA 0.00 ROLL 0.0

AVERAGE MODEL/NOZZLE PARAMETERS... PTG= 431.6 TG= 215.0 PTG/PSA= 355.24 PSH122]/PSA= 0.6647

MEATER PARAMETERS.... HEATER TOTAL PRESSURE= 550. HEATER TOTAL TEMPERATURE= 240.

						TEMPERATU	RE DATADE	GREES FAHREN	HETT EL-STING FE	nee-PIPE	TCH
FRAME		PSA	PTC	SKIN(1)	SKINTEL	SKIN121	SKINEAL	ZKIME21 WOR	EF-9:140 .c.		221.5
		1.21	883.90	868.1	101.4	104.9	107.5	0.0	127.0	284.8	
•			862.85	851.3	101.4	104,5	107.5	0.0	132.2	274.4	225.0
5		1.21		862.8	100.1	103.2	106.2	0.0	140.0	265.7	225.0
3	4	1.22	872.32		**************************************	181.4	195.3	0.0	144.8	258.4	227.2
	\$ .	1.22	870.74	860.7	98.0				150.9	253.6	229.3
5		1.22	872.32	858.1	98.0	181.0	104.5	0.0			230.2
6		1.21	869.69	869.7	97.1	96.7	103.6	0.0	156.5	249.7	230.5

FR PTC TC P47/PTC PORT-22 NO PSM/PSA NO PSM/

72.8

96.2

SKINIZ1

97.1

MSFC TRISONIC WIND TUNNEL HUNTSVILLE, ALABAMA

PLUME TECHNOLOGY TEST...MON-BUILDCENT PHASE

SKIN131

148.1

TEMPERATURE METATE DEGREES FAHRENHETT -----

...

4.8

SKINIS | MODEL-STIMS FEEDER-PIPE

128.1

150.5

MAN.

103.2

99.7

TEST 575 RUN 342/4

281.4

260.3

259.7

252.3

245. 6

TCH

224.1

226.3

224.3

228.5

231.6

FR PTC TC P47/PTC PORT-22 NO PSH/PSA NO PSH/

23 AUGUST 1973

FRAME

PSA

5 1.21

PTC

1157.39

1.21 1156.53

Minit.

1131.8

1137.1

ORIGINAL PAGE IS OF POOR QUALITY

	a.t					TENPERATUI	RE DATADI	EGREES FAHREN SKIN(5) NOD	E STING FE	EDER-PIPE	TCH
FRAHE		PSA	PTC	SKINILI	SKINE21	SKIN(3)	SKIN[4]	Skinist unr		265.7	239.7
	:		1582.32	1557.6	111.9	117.1	116.2		147.4	E03.	<del></del>
i 12. <b>1</b>		1.22	1982.32			116.2	115.8	D • 0	154.8	259.7	239.7
2		1.22	1558.64	1544.4	111.0	110.5			162.1	255.3	241.5
		1.22	1541.27	1509.7	189.7	115.3	114.0	0.0	10517	- :	
3		1.26	• •			114.9	114.5	0.0	166.9	253.2	241.5
4	: .	1.22	1502.32	1476.5	110-1				173.4	253.2	240.6
		1.22	1456.53	1440.7	189.3	113.6	113.6	0.0			238.9
>	e .	1.22			108.4	112.3	112.3	6-0	178.2	251.0	230.7
. 6		1.22	1401.88	1387.1	100.4	. 유명하다.					

	CONTACT NO PENIPER NO PENIPER NO PENIPER NO P	PSM/PSA NO PSM/PSA NO
		0.98357 23 8.94772 27 447505
1 1578.1 239.7 0.0361	1.35 5 9.0032 0 0.0710 11 0.0003 17	0.94828 24 8.99375 38 8.95847 41 1.13254 36 8.91545
2 1540.6 239.3 8.0365	1.35 4 6.79768 7 6.9863/ 12 1.60263 17	20070 25 0 00057 31 0.94263 42 1.18983 37 0.96256
4 1204.4 541.5 0.000.	2 97745 18 4 97975 15 1.61548 28	1.81831 27 0.99566 33 8.94410 46 1.19811 43 1.69243
The state of the s	4	1.61318 28 6.98639
6 1395.0 238.9 8.8367	1,30	

WIND TUNNEL VEST CONDITIONS.... 0 18.297 PT 98.886 PS 1.245 R/L 18.6 HACH 3.408 12HF 1800 HODEL ATTITUDE.....ALPHA 8.88 BETA 8.88 ROLL 8.8 AVERAGE HODEL/MOZZLE PARAMEYERS.. PTC= 1585.5 TC= 248.4 PTC/PSA= 1238.98 PSH(22)/PSA= 1.8943 AVERAGE HODEL/MOZZLE PARAMEYERS... HEATER TOTAL PRESSURE= 2870, HEATER TOTAL TEMPERATURE= 270...

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										IPRAPPK FAI	icenie (v		
1		FRANE		PSA	PTC	2K1M[1]	SKINISI	SXIN[3]	SKIN(4)	SKINIS!	RENHEIT MODEL-STIME	FEEDER-PIPE	TCH
		1		5.86	1585.48	1567.1	83.7	83.2	85.8	0.0	98.8	373.7	257.5
		2		5.68	1584,43	1579.2	63.7	83,2	86.3	8.0	110.6	335.1	253.6
		3		5,85	1586.81	1555.5	84,1	<b>03.2</b>	86:7	0.1	124,4	308.7	248.4
- 10		4		5.26	1593.98	1575.0	62.6_	82.6	88.4	9,0	133,1	290,5	247.5
	- <del></del> ,	5	هره د جمه د	5.07	1588.11	1577.6	82,8	83.7	90.2	0.8	139.6	278.3	246.2
<del>,</del>	- 1			5.66			84,5	84.5	91.0	8.0	145.7	276.1	244.1
	- 0. <del>10-1</del>		j.		1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1								·

TC P47/PTC PORT-22 NO PSN/PSA NO PSN/PSA NO PSN/PSA NO PSN/PSA NO PSN/PSA NO PSN/PSA NO PSN/PSA 5,28 5 8,67371 6 8,83614 11 8,95398 16 8,94626 23 8,93899 29 8,94558 34 1,82874 35 8,96612 1 1598.7 257.1 8.6365 4 8.79122 7 0.94626 12 0.95313 17 8.92564 24 0.96917 38 8.95619 41 1.09346 36 1.15247 5.25 2 1588.2 254.5 8.8362 3 8,97588 8 8,97986 13 8,92488 10 8,91955 25 8,93822 31 8,97918 42 1,11581 37 1,65788 5,26 2 1.31132 9 1.88812 14 0.93175 19 0.82717 26 8.91495 32 1.83791 39 1.88831 38 1.88297 4 1593.4 248.0 0.8359 1 1.48373 10 0.48827 15 8.99514 20 8.96383 27 8.98638 33 1.88278 40 1.11818 43 1.89868 5,20 5 1584.4 246.7 8.8361 21 0.97375 28 0.94091 5,27 6 1574.4 244.9 0.0360

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						TEMPERATU	RE DATAD	ECREES FAHR	NHE1T		TCH
FRANE		PSA	PTC	SKIM(1)	SKIMI21	SKIN[3]	SKIN[4]	SKINES! N	DEL-STING F	EEDEM-LINE	160
			1245,48	1228.1	186.7	111.4	111.9	0.0	135.3	368.1	264.0
		5.03		1204.4	104.5	110.1	111.4	0.8	143.1	337.7	261.0
2		5.02	1211.27	1192.8	103.6	108.8	110.1	0.0	152.2	215.2	257.1
3		5.63	1202.85	1195.6	193.2	167.5	110.1	0.0	159.1	298.7	254.0
•		5.03	1286.01	1198.6	162.7	187.5	111.4	8.8	161.7	285.7	251.4
5	and Hill May 1 Hill Call Hill	5.03	1214.43		101.9	105.7	110.1	0.0	167.8	277.9	251 - 0
6		5.05	1219.69	1201.8				-			

			FR	PTO		TC F	47/	PTC	20	RT-2	2 HO	PSH/	PSA	HO I	SH/F	SA I	10 P	SM/PSA	NO	PSH/PSA	NO	PSH/PS/	NO.	PSH/PSA	NO	PSH/PSA	NO P	SHIPSA	
			Pa Sal	1246				1975. 1986		5.19	- 15	0.87	686		. 651	38 1	11 5	95752	16	0.95214	23	8.9336	9 29	8,95367	34	1,98902	35.8	1.4/212	
	3			77 (4.44)	100		1.	rii		5.86	4	e.78	468	7 (	B. 94!	122 1	12 6	.95214	17	9.92378	24	0.9721	2 30	0.96290	41	1.81579	36 1	1.14582	
	H	י דיידוי	1 1997	1209					100	5.06	- 3	4.67	719		.98	518	13 8	.92755	18	6.92985	25	9.9336	9 31	8.98902	42	1.04051	37 1	. 66283	٠.
Ţ	#		1 7	1200		1.04		100		2.40			4 64		1 41	P85	14 0	93460	19	0.93139	26	9.9286	4 32	1.04359	39	1.01208	38 1	.87894	i ;-
	40 89	- <u></u>		1201				jiru.		7, 90 -			-07	40		-44	15 8	.98441	26	9.96751	27	0.9413	8 33	1.01131	4	1.04569	43 1	1.01515	
	465 465			1222							100	1,70	093	78	U	-	-			0.97983									
	<u> </u>	<del></del>	. •	1557	.3 2	1.4	0,	367		5.86						<u> </u>	711	<del>- 1</del>								1		· · · · · · · · · · · · · · · · · · ·	
		44.5	100		artifa.			l <sub>e</sub> ir	dal.	424	Safe	1 <u>1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 </u>		i i			111						<del></del>						

	TUNNEL TEST			7.748 F	7 18.613	PS 5.033 R/L	3.3 RAUH	2440E 101H	
				HA 0.88	BETA 9.	en Roll T.P		PSA= 1.0474	
HODE	FYRE HODET NO	ATTLE BADAM	CTC PEC	· 1216.9	TC= 256,9	P\$C/P\$A= 241	PARTECIA	10.	
AVE	TABE MUTELIAN	Market Tunkin	**************************************	TER TOTAL P	MESSURE- 160	HEATER TOTAL	P-1728 ENTONE		
4. 10	SM LWKWELCH								

						E DATAD SKIN(4)	EGREES FAHREN	BEIT	DER-PIPE	TCH
FRAME	PSA	PTC	SKINLTI	SKIN(2)	SKIN[2]			147.0	391.5	274.6
1	5.04	862.32	853.9	116.2	123.6	123.1	0.0			277.0
		858.11	849.2	113.6	120.5	121.0	0.6	154.8	365.	
2	5.03			112.7	119.7	120.5	●.0	161.3	343.3	271.5
. 3	5.08	864,95	857.0	112.,			0.0	166.5	326.4	267.0
4	5.06	858,11	850.7	114.0	118.8	121.8		a para di di di di di di di di di di di di di	312.1	262.7
-	5,07	866,53	858.6	112.7	117.9	121,4	0.0	170.4		
5	7.07			110.1	116,2	120.5	0.0	173.0	386.4	260.5
6	5.04	870.22	\$61.5	*****	<del> </del>					

FR PTC TC P47/PTC PORT-22 NO PSH/PSA NO PSH/

110 1-

			PTC	SKIN[1]	SKINEST	M(1)(3)	SKIMI41	EGRE <b>E</b> S FAHRE Skin(5) Ho	DEL-STING FEE	DEM-AILE	TCH
	FRAME	PSA			120.5	128.3	128.8	0.8	150.9	404.5	283
	1	5.19	464.95	459.2			127.5	0.8	150.5	386.7	261
-1-	2	5,23	459,16	454.4	119.7	127.5	•		161.7	370.7	278
	3	5.22	453,90	449.2	117.9	125.3	126,6			355.9	277
		5.20	460.74	456.8	115.8	123.1	124.0	0.0	166.9		274
	_ :		460.74	456.8	115.3	121.8	124.4	0.9	168,6	342.9	
	5	5.19 5.19	460.74	457.6	114.9	121.4	124.0	G• <u>.</u>	172.1	331.2	270
٠,	•										

**		•		-		ND PSH/PSA N	n PSM/PSA	NO PSM/PSA N	O PSH/PSA	NO PSM/PSA N	D PSM/PSA NU	- POMPEOM
	FR	PTC	TC P47/PTC	PORT-22	KO PSH/PSA	NO PARTIES			T . D4681	20 m. 04e12 3	4 8.96818 35	0.96398
-		445.0	284.0 0.0381	4,99	5 0.87398	6 6.89181 1	1 0,96316	10 0.92435 5	3 8.94001			4 4 9 9 2 0
	<del></del>	÷				9 A. DAARL 1	2 8.94532	17 8.90816 2	4 1.08849	38 8,99580 9	1 9.77011 00	****
	2	458.6	281.4 8.8381	5.83	4 8.05848	1 8131007 7			E - 2448A	31 1.80775 4	2 0,78702 37	1.04788
1		489.8	278.7 0.0385	4,99	3 1.81667	8 1.92930 1	3 6,95424	18 D.A.DIS	3 6134605		24400 11	4 67084
7					2 4 35116	9 6.98397 1	4 8.94235	19 8.95796 2	6 0.91336	32 1.01369 3	9 8.76655 30	1,0,,,,,
		468.7	277.4 8.8378	9,70	2 1007110	10 0.99200 1		20 1 00478 2	27 0.95647	33 1.81518 4	0 0.78331 4	5 6.77588
	5	461.8	274.4 0.0380	5.01	1 1.45914	10 0.99200 1	2 8.74880	58 7:00				
						.:		21 8.98099	28 8.93249			
	<u> </u>	457.7	274.5 4.0361									

-	0 7.753 PI 18.813 PS	5.285 R/L 5	.3 MACH	1,459 IERF	703.4
	THE THEFT COMPITIONS 9	OLL 0.0	pest 22 \ /PS	A= 2.9692	
	MOBEL ATTITUDE	144	PERATURE - 251	4	
	AVERAGE MODEL/MOZZLE PARAMETERS. FIG. 1974L PRESEURS 400.				

	FRANE	PSA	PTC	SKIN[1]	SKIN(2)	TENPERATU SKIN(3)	ME DATAD Sylwids	3K[N[5]	MENNETT MODEL-STIME	FEEDER-PIPE	TCH
<del></del>	• 1 TENTE	7.37	969.20	855.5	116.2	221.0	120.5	9.0	148,5	287.0	237.1
	2	7.30	641,31	834,5	114.0	119.2	119.7	0.0	145.7	280.1	242,3
	3	7.30	051,31	841.3	115.3	118.8	118.8	8.0	152.2	275.7	248.
		7.37	854.05	845.6	113.2	117:1	117.9	8.0	156.1	271.8	245.
	<u></u> 3	7.48	860.26	859.3	112.3	117.1	118.4	0.0	169.8	278.5	247.
		7,34	868.19	050.2	111.0	114.9	117.5	9.8	165.2	248.4	245,

٠.	FR	PTC	TC P47/PTC	PORT-22	NO PSM/PSA	NO PSH/PSA	NO PSH/PSA	NO	PSH/PSA	MO	PSH/PSA	HO	PSH/PSA	NO	PSH/PSA	NO	PSH/PSA_	
•			237.6 0.4372	1	5 8.89641	6 8.99869	11 0.77246	16	1.88918	23	0.92788	29	1.03593	34	6.92421	35	1.12352	_
			242.8 0.6379															_
			243.6 0.0374	4.93	3 0.95568	B 0.00820	13 6.94047	10	1.01265	25	4.92945	31	4.98243	42	0,88382	37	1-02701	
		- 1	246.2 0.8375		2 1.20137	9 4.99687	14 1,00726	19	1.08551	26	1.88656	32	8.99659	39	0,87280	38	0.93889	_
		1 4	247.5 9.4374	A 94			15 1.00446											
		_	250,1 0.0374	6,94	<u></u>						1.82649				<del> </del>		·-· <del>-</del>	

WIND TUNNEL TEST COMBITIONS..... Q 7.581 PT 18.015 PS 7.374 R/L 5.5 MACH 1.286 TEMP 181.3 MODEL ATTITUDE...... ALPHA 8.88 BETA 8.88 ROLL 8.8 AVERAGE MODEL/MOZZLE PARAMETERS... PTC= 855.9 TC= 244.6 PTC/PSA= 116.86 PSM1221/PSA= 8.9399 KEATER PARAMETERS..... HEATER TOTAL PRESSURE= 1188. HEATER TOTAL TEMPERATURE= 285.

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					-TEMPERATU	RE DATAD	EGREES FAHREN SKIN(5) HOD	HEIT	DER-PIPE	TCH
FRAME	PSA	PTC	2K1M(1)	SKINI21	SKIN[3]	SKIN[4]	28/18/21 HOD	135.7	287.9	242.3
	7 44	1231.84	1210.8	112.3	117.9	117.1	0.0			248.3
1	7,41	•	•	111.4	116.2	117.1	0.0	143.9	280.9	•
2	7.40	1220.26	1202.4		• •·· ·· <u> </u>	116.2	0.0	150.9	276.1	248.3
3	7.48	1203.41	1178.7	111.0	115,8		0.0	156.9	272.2	252.7
	7.41	1213.94	1198.2	109.3	114.0	115.8			278.9	255.3
. •		* 17 1	1211.3	110.1	113.6	115.8	<u>0.0</u>	162.1	2790	
5	7.41	1230.78				115.3	D.6	166.9	270.9	258.4
6	7,41	1231.84	1215.0	169,3	112,7	****				

FR PTC TC P47/PTC PORT-22 NO PSM/PSA NO PSM/

			5.5 MACH 1.283 TEMP 181.2
		A 7.495 PT 18.021 PS 7.484 R/L	
w	IND TUNNEL TEST CONDITIONS	. ALPHA 0.00 BETA 6.06 ROLL PTC/PSA= 165.	PSH[22]/PSA= 0.9824
	NRSI ATTICUNCAGAGGGGGG	The Paris Property of the Paris Property of	TEMPERATURES 298.
· - 1 🛔	VERASE MODEL/NOZZLE PARAMETERS	HEATER TOTAL PRESSURE 1600. HEATER TOTAL	City Trains and
. I H	EATER PARAMETERS		

E	.41 1689.	69 1561.4	95.8	97.5	96.7	0.0	104.6	287.4	239.3
E									
	.41 1582.	<b>1949.</b> 2	94.5	96.7	97.5	0.0	114.5	276.1	246.2
			94.1	97.1	98;4	0.0	126.6	278.9	247.1
		<del></del>	94.5	96,7	99.3	0.0	135,3	266.2	251.0
				97.1	181.8	4.0	144,4	267.6	252.7
					101.4	8.0	192.2	266.6	255.3
<u> </u>	7	7.41 1617. 7.41 1688.		7.41 1617.06 1590.7 94.5 7.41 1698.11 1583.9 95.8	7.41 1617.06 1598.7 94.5 96.7 7.41 1688.11 1583.9 95.8 97.1	7.41 1617.06 1598.7 94.5 96.7 99.3  7.41 1617.06 1598.7 94.5 97.1 191.8	7.41 1585.64 1598.7 94.5 96.7 99.3 0.8  7.41 1617.06 1598.7 94.5 96.7 99.3 0.8  7.41 1688.11 1583.9 95.8 97.1 191.8 0.8	7.41 1588.64 1588.1 74.3 77.2 75.2 75.2 75.3 7.41 1617.06 1598.7 94.5 96.7 99.3 0.8 135.3 7.41 1688.11 1583.9 95.8 97.1 191.8 0.8 144.4	7.41 1588.64 1588.1 74.3 77.2 77.2 77.2 77.2 77.2 77.2 77.2 77

FR PTC TC P47/PTC PORT-22 MQ PSM/PSA ND PSM/

WIND TUNNEL TEST CONDITIONS..... Q 7.494 PT 18.019 PS 7.486 R/L 5.4 MACH 1.283 TEMP 182.3

MODEL ATTITUDE...... ALPHA 0.88 BETA 0.00 ROLL 0.0

AVERAGE MODEL/NOZZLE PARAMETERS.. PTC= 1683.9 TC= 248.6 PTC/PSA= 216.98 PSH(22)/PSA= 1.8458

HEATER PARAMETERS.... HEATER TOTAL PRESSURE= 2108. HEATER TOTAL TEMPERATURE= 286.

				****	TEMPERATUR	RE DATAD	EGREES FAHREN SKINIS) MOS	HEIT	DER-PIPE	TCH
FRAME	PSA .	PTC	SK[H[1]	SKIMI21	SKIN[3]	SKIH(4)		146.1	278.7	248.8
FRANC		1593.41	1579.2	119.2	123.6	122.3	0+9	<del></del> -	274.0	249.7
1	10.57	,	1546.0	119.2	123.6	121.8	0.0	154.8		258.6
2	10.58	1574.99	-	117.1	121.4	120.5	8.6	160.0	267.9	
3	10.58	1571.84	1542.4			119.7	G <u>. 0</u> ,	164.7	265.7	252.7
4	10.56	1589.20	1563.4	115.8	129,5		•	169.5	264.9	255.3
	10.58	1573.94	1557.1	115.3	118.8	119.2	8.0		264.9	254.5
5			1533.9	115.8	118.4	118.4	9.0	174.3	##2 ·	
6	10.56	1548.68								

TC P47/PTG PORT-22 NO PSH/PSA NO PSH/PSA NO PSH/PSA NO PSH/PSA NO PSH/PSA NO PSH/PSA NO PSH/PSA 5 0.99945 6 0.98189 11 8.96148 16 8.99945 23 0.96214 29 1.02286 34 1.03859 35 1.04518 4 8.95519 7 8.96653 12 0.97165 17 1.83677 24 8.97092 38 1.81994 41 1.04445 36 1.04189 11.83 3 0.88495 8 0.98994 13 0.97787 18 1.01225 25 0.95884 31 1.81994 42 1.05835 37 1.04591 11.03 2 1.88359 9 8.98462 14 0.98482 19 1.81738 26 6.98628 32 1.82799 39 1.03750 38 1.04920 3 1587.6 251.9 8.8361 5 1568.7 255.8 6.6365 11.63 1 1.11761 10 0.97165 15 1.80274 20 1.02689 27 1.00896 33 1.03640 40 1.04701 43 1.04737 21 8.98811 28 1.81372

9.907 MACH PSM(221/PSA= 1.8438 ROLL PTC/PBA= 148.89 HEATER TOTAL TEMPERATURES 280. AVEHAGE MODEL/NOZZLE PARAMETERS.. PTC\* 1574.2 TC=

• • •	23 AUGUST	1973 		PLU	ME TECHNOLO	BY TESTN	DN-OUTESCENT	PHASE			
						YENPERATU SKINTSI	RE DAYADE	REES FAHREI	HEIT-	DER-PIPE	TCH
	Frane	PSA	PTC	SKIN(1)	115.6	114.8	114.0	0.0	133.5	287.6	242.3
		18.59	1224.99	1201.8	110.1	113.2	113.2	0.8	140.9	278.7	247.1
<del></del> ··-		19 -69.	1206.05 1809.73	1193.3	118.6	113.2	113.6	0.0	148.7	274,4	246.2
	<u>3</u>	10.60	1224.47	1210.3	107.7	112.3	112.7	0.5	154.3	270.1	248,4
	•	10.60	1296.57	1198.3	198.4	111.0	112.3	1.6	158.7	264.4	251.9
-	5	10.59	1224,85	1863.9	108.0	111.8	112.7	0,0	162.6	265,7	252,7
	2 1202.4 3 1208.2 4 1217.1 5 1207.6		8369 18.69 8369 18.6 8366 18.6 8364 18.6	5 5 0.999 4 4 6.983 5 3 0.869 4 2 1.083 4 1 1.115	75 6 g.98 <u>1</u> 6 94 7 g.9672 85 g.9901 74 9 g.985	36 11 8.9591 26 12 8.978 99 13 0.976 15 14 8.961	5A NO PSH/PSA P5 16 0.99289 54 17 1.82978 38 18 1.86194 50 19 1.8634 37 28 1.90707	23 0.96141 24 0.97127 25 0.95849 26 0.98223	29 1.01436 38 1.00008 31 1.00742 32 1.00098 33 1.01071	34 8.99975 3 41 1.80231 42 1.81526 39 8.99391	55 1.8439 56 1.8362 57 1.8359 58 1.8121
- - -	WIND TUNN HODEL ATT	ITUDE	OMDITIONS.,	ALPHA		18,017 PETA 8.00 Cm 248,2 SURE= 1600.	S 18.593 ROLL PTC/PSA=	R/L 5.1	<del></del> <del></del> .	1.8050	181,4

ORIGINAL PAGE IS
OR POOR QUALITY

						RE DATAD SKIN(4)	EGREES FAH	RENHEIT+ MODEL-STING	FEEDER-P: 36	7.5H
FRAME	PSA	PTC	SKIM(1)	SKINISI	SKIN(3)	2818641			287.7	234.1
_	40.57	874.47	866.8	111.4	114.0	114.9	0.0	132.7	20/ 1	201
1	10.57		845.8	111.0	113.2	113.6	0.0	138.7	280.1	235.9
2	19.68	857.62	643.4	++-1			9.6	144.4	274.3	246.2
3	10.59	858.15	845.5	119.1	112,3	113.2	4.0	• • • • • • • • • • • • • • • • • • • •	_	
•	10.59	863.94	849.7	105.4	111.9	113.7	0.0	150.0	270.1	243.2
•			846.2	188.4	111.0	112.7	0.0	154.8	267.9	246.2
5	10.56	865.52	940.2			447.9	0.0	159.1	267.9	247.1
6	16.57	874.99	861.3	148.8	111.0	113.2	010	2000		_

		TC P47/PTC	202-32	us.	DCW/PCA	MO	PSH/PSA	NO	PSM/PSA	NO	PSH/PSA	МО	PSH/PSA	NQ	AS4/HS4	MO	PSH/PSA	<b>U</b> O	PSM/PSA	
FR	PTC	16 P47/P16 235,4 8,8372	PORT-22	NU -	- comes		- 08149		n.95830	16	0,98462	23	0.96159	29	1.80691	34	0.95043	35	1.04163	
1	668.7	235,4 6,63 <u>7</u> 2 239.7 9.6374	10.15	2_	8.9998	<u> </u>	8.70107		- 0404T	17	1.42336	24	0.97183	39	1.00033	41	9.94544	34	1.03836	
2	856.9	239.7 0.0374	10.15	4	0.95757	!	0.70/01	1.5	0.7540	• •	A. ROOAS	25	n.95538	31	8.99302	42	8.95355	37	1.82592	
3	855.0	239.7 Q.8374 248.2 8.8374	10.15	3	8,88740		4.57518	12	# 44.574.	49	* CB087	3.6	n . 97877	32	0.99266	39	0.93938	3.6	9.96896	
4	865.8	242.8 8.8374 242.8 8.8372	10.16	2	1.88439		0.98688	14	8.9//31	ĪÄ	#. Y7BOJ		- DOEOK	**	A. OARAG	40	p 94295	43	e. <b>95</b> 063	
5	867.1	242.8 8.6372	19.16	_1	1.11510	19	6.96781	15	0.98937	56	8.4005/	21	0.2222	94		. •	•			
6	876,6	247.5 0,0371	19.17							21	8.95794	26	, <b>0.999</b> 7		0 1					

ROLL PTC/PSA= HODEL ATTITUDE..... ALPHA AVERAGE MODEL/MOZZLE PARAMETERS., PTC= 864.7 HEATER PARAMETERS..... HEATER TOTAL PUESSURE- \$480.

	PSA	PTC	SKIN(1)	SKINES	SKIN[3]	SKIN[4]	SKIN(5) HO	NHEIT-	EDER-PIPE	TCH
PANE			451.8	113.6	113.6	98.0	0.0	197.3	741.7	474.3
1	10.79	455,48		113.6	113.6	99.3	0.0	211-1	728.1	485.1
2	10.77	458.31	452.8	114.0	112.7	181.0	0.0	222.8	701.4	492.0
3	10.78	462.32	495.5		112.3	102.3	0.0	233.7	484,1	497,7
	18,77	467.86	462.8	111.9	112.7	105.3	9.0	243.6	672.4	499.6
<b>5</b> ,	11.01	467.59	462.5	112.7	110.6	196.7	8.0	252.3	458.5	584.6

	_	TC P47/PTC	#n01-22	NO PSH/PEA	NO PSH/PS/	NO PSH/PSA	NO PSH/PSA	NO PSH/PSA	HO PEMIPSA	NO PSHIPSA	MO PORTEON
1.77	PŢÇ	<b>-</b>		NO PORTO	<u></u> -		44 4 67843	23 n.95978	29 6.99286	34 8.87514	35 1.04467
1 4	44.4	474.3 8.0280	9,60	5 0.99672	6 0.98130	11 B'Achee	TO STATE				T6 4 01896
-				4 0255368	7 4.9445	12 0.98767	17 1.81071	24 8.94875	30 9.48534	41 8.84716	30 1107014
2 4	155+1	48541 0.4377				64884	48 0.97625	25 0.95583	31 8.97341	42 0.85397	37 1.01322
3 4	464.4	492.5 0.8375	9,61	3 8.89594	8 0.3091	1 13 0.90702	10 011.000			44573	38 n.90598
_		498.5 4.0378	9.61	2 1.07706	9 8.9852	2 14 6.97233	19 8.97389	26 8.97233	35 0.30300	39 8.84573	
	405.5	440.5 8.0015	2125			4 40 0 88841	28 8.96883	27 8.99062	33 1,94962	46 0.85003	43 8.85649
5 4	468,1	499.8 8.8379	9,64	1 1,14844	18 0.9705	4 72 0 140300					
		585,0 0,0361					21 0.95225	28 0.99242			

CONSTRUCTIONS O	5.955 PT 18.811 PS	18.785 R/L 5.1	1 MACH 0.686 TERP 192.8
MIND TUNNEL TEST CONDITIONS O MODEL ATTITUDEA AVERAGE MODEL/MOZZLE PARAMETERS	Tr. 402.5	PTC/PSA# 43,02	PSH(22)/PSA= 0.8916 ERATURE= 628.
AVERAGE MODEL/MOZZLE PARAMETERS	EATER TOTAL PRESSURE: 600.	NEW CO.	

AUN 356/1

MSFC TRISONIC WIND TUNNEL HUNTSVILLE, ALABAMA PLUME TECHNOLOGY TEST...NON-QUIESCENT PHASE

						RE DATAB	EGREES FAHREN SKIN(5) HOD	HEIT	DER-PIPE	TCH
FRAME	PSA	PTC	SKINILI	SKINIZI	2KIN[3]	SKIN(4)	2KIMIS) HOD			481.6
FRANC		444 27	456.5	128.3	128.3	117.7	0.0	227.2	745.2	
1	16.68	461.27				112.7	0.0	237,6	725.3	492.5
2	10.78	453,38	450.2	126.2	127.0			248.4	706.2	498.5
-	10.69	458.64	455.0	123.1	124.4	111.9	0.0	24014		505 C
3	10.07			123.1	124.0	113.2	0.0	258.8	691.0	505.0
4	10.70	463.38	45B.6	15711			0.0	266.6	677.1	507.2
5	10.71	469.16	464.4	121.0	122,3	114.5			665.0	509.4
_		478.11	472.6	120.1	121.4	115.8	0.0	274.4	00310	
6	10.76	4/0.11		-						

					NO PSH/PSA	un Dem/PSA	NO PSM/PSA	NO PSH	PSA NO	PSM/PSA	NO PSM/PS	SA NO F	25H/P5A
FR	PTC	TC P47/PTC	PORT-22	NO PSM/PSA	NO PSM/PSM	NU FSHITTS			Bes0 39	n. <b>99as</b> 5	34 0.873	98 35 :	1.03634
		481.4 9.0378	9,49	5 4.99765	6 9.98181	11 8.95317	16 8.97559	\$2 863	3033 53				4 01753
						42 A 06221	17 1.88741	24 6.9	6474 38	9.9813/	71 0.070		
2	452,6	492,0 0,0382	9,49	4 0,43462	8 6.98665		07487	25 0.9	4847 31	9,97161	42 0.849	39 37	1.01175
3	457.1	499.8 8.0381	9.49	3 0.88917	8 6,98668	12 0 30414	10 6.51201			. 06474	10 n.843	24 38	B.90291
			9.51	2 1.87973	9 9.98101	14 0.96944	19 0.97233	56 0.9	<b>●</b> 8/2 32	0:353			- 0E177
	•				10 0.96546	45 n.98181	20 0.96619	27 0 9	8608 33	0.94666	40 8,846	20 43	0.65337
5	469.2	507.2 8.0378	9.52	1 1.12909	10 0.30340	<u></u>	21 0.95389	98 B.O	1888				
	479.2	511,1 9,0376	9,53				21 0.95589	20 013		••			
•	7,716												·

· · · · · · · · · · · · · · · · · · ·		- 48 840 PS	18.697	R/L	5.1	MACH	8.896	TEMP	162
HIND TUNNEL TEST CONDITIONS HODEL ATTITUDE	ALPHA 0.0	TC= 499.3	ROLL PTC/PSA= HEATER	0.0 A1.3	36 TEMPEI	PSM(22)/ RATURE= 4	/PSA= 1,8   38.	885	
AVERAGE MODEL/MOZZLE PARAMETERS	MENIER IDIAL								

						PE DATAD SKIN(4)	EGREES FAHRE	NHELT DEL-STING FEE	DEP-PIPE	TCH
FRAME	PSA	PTC	SKIN[1]	2kint51	SKIN[3]	2814141				402 /
•	10.62	823.38	815.0	101.9	_103.6	104.9	0.0	170.8	718.9	492.5
•		_	813.9	102.3	103.6	106.2	0.0	192.8	<b>+82.3</b>	490.8
2	10.63	822.85	92017			440 4	9.8	212.9	659.7	505.5
3	10.64	829.16	878.5	103.2	104.5	108.4	•••			*** 9
	10.47	838,64	831.8	102.3	104.6	110.1	9.0	228.9	642.0	510.2
•	10.63	900,04				111.4	0.0	245.6	629.0	514.1
5	10.64	858.11	850.2	163.6	204.5	141.4			440.0	518.0
6	10.64	864.43	<b>\$</b> 52.8	102.7	184.9	114.5	0.0	257.9	51 <b>9.</b> 0	24010

		** ******	2007-22	ND PSM/PSA	NO PSH/PSA NO PS	M/PSA NO PSH/PSA	NO PSM/PSA	NO PSR/PSA N	PSM/PSA NO PSM/PSA
FR	PTC	16 P4//P10	FORT-EE		4 - 07054 44 6-	95748 14 8. <b>95</b> 351	23 0.95958	29 0.99915 3	0.98913 35 1.84898
1	822.5	491.6 8.8369	10,85	2 8.990V	9 0.77721 11 00		24 4 94478	30 0.99333 4	n.93622 36 1.82686
2	623.4	499.8 0.0371	19,10	4 0.95360	7 4.94532 12 8.	96714 17 1.61079	54 0110010		1 0.93622 36 1.82686 2 4 94823 37 1.82679
_			48 42	3 0 68930	8 8.98969 13 8.	97114 18 8.93751	25 6.93485	Of Manages as	F A1 Nanch all andare.
	<b>_</b>		46 48	9 1.08944	9 8.98823 14 8.	97587 19 8.98714	59 0.91418	25 81 20420 3	
-				1 1 15501	18 2.96859 15 0	98969 28 8.98714	27 0,99515	33 0,97914 4	6 6. <b>9398</b> 6 43 0.94823
				4 444577	THE STATE OF THE S	21 0.96859	28 8.99886		<u>.</u>
6	663.4	517.6 8.0371	10,17				<del></del>		t

TEST COMBITIONS	0 6.845 PT 10.011 PS	10.634	R/L 5.1	MACH	8.991	ĨĖM
WIND TUNNEL TEST COMPITIONS MODEL ATTITUDE AVERAGE MODEL/MOZZLE PARAMETERS MEATER PARAMETERS	ALPHA 0.02 BETA 0.00 PTC= 030.3 TC= 506.6 HEATER TOTAL PRESSURE= 1100.	PTC/PSA= HEATER	70.63 TOTAL TEMPE	PSM(22) RATURES (	/PSA= 8.9 120.	520

TEST 575 RUN 370/

					TEMPERATU	RE DATAD	EGREES FAHRE	WHE IT-	RED-21PF	TCH
FRANE	PSA	PTC	SKIN[1]	SKIMEŽI	SKIN[3]	SKIN[4]	SKIN(5) MO	DEL-STING FEE		518.5
		-0-0 60	1207.1	124.0	120.5	108.0	0.0	550.5	695.3	21012
1	10.63	1219.69		−,		108.8	0.0	241.5	665.0	524.5
2	10.63	119ū.74	1161.3	122.3	119.2			044.4	642.0	528.4
	10.62	12: 5,53	1283.9	121.8	119.2	109.7	0.0	261.4		-
3	10.05				119.2	112.3	0.9	277.0	627.3	532.8
4	10.64	1236.01	1226.0	122.3			0.5	296.9	615.6	535.8
5	18.65	1256.01	1243.9	119.2	117-1	113.6	0.0			538.8
	•		1239.7	119.2	117.1	115.3	G-0	303.0	686.2	200.0
6	10.64	1257.06	TEGET					_		

FR PTC TC P47/PTC PORT-22 NO PSH/P3A NO PSH/

	0 4.437 PT 18.000 PS	18.636 R/L	5.1 NACH BITTE
WIND TUNNEL TEST CONDITIONS			PSH(221/PSA= 1.8052
AVERAGE HOBEL/HOZZLE PARAMETERS	PTC- 1228.9 TC- 529.5		HPERATURES SEE.
AVERAGE HOBEL/HOZZLE PARAMETERS	MEXTER TOTAL PRESSURE TOTAL		

1-175

	23 AUGUST :	1973		MSFC 1 PLU	E TECHNOLO	ND TUNKEL By TestNO	HUNTSVILLE H-OUIESTEN	ALABAMA T PHASE		TEST 575	RUN 359/0
<del></del> .	FRANE	PSA .	PTC	SK[N[1]	SKIN(2)	TEMPERATUI SKIN[3]	E DATAD SKIN(4)	EGREES FAHRE SKIN(5) HO	NHETT	FEBER-PIPE	TÇH
•	1	10.61	1526.53	1501,0	90.2	89,7	88,9	0.6	110.1	697.5	508.5
	2		1500.74	1482,3	98.2	90.2	90.6	0.6	144.8	659.8	517.2
			1494.95	1475,5	91.0	98,6	92,8		179.8	632.1	518.8
	4	18.64	1507.06	1487.6	91.9	91.5	95,4	0.5	287.2	612.5	521.9
-	5	10.63	1589.17	1480.1	91.9	72.3	-16,1	0.0	231.1	699,8	526.7
	6	,		1488.1	<b>\$2.3</b>	92.8	101.0	•••	251.0	593.0	527.:
	• • • • •										
	FR PTC	TC P47/	P <u>T</u> C PORT+2 <u>2</u>	NO FEN/PS	NO PSH/PS	A NO PSH/PS	NO PSH/PS	A NO PSH/PS/	NO PSI:/PS	A NO PSH/PSA	NO PSH/PSA
	1 1537.4	589.4 8.6	362 10.99	5 8.9939	6 8.9764	4 11 8.9567	16 8.994	28 23 0.9571	29 1.0153	8 34 1.02774	35 1.84450
	2 1497,1	517.2 0.0	364 18.97	4 0.96170	7 0.9498	9 12 0.9684	17 1.032	15 24 8.9662	38 1.6139	3. 41 1.03467	36 1.83613
	3 1501.8	518.0 0.0	364 11.00	3 1,4876	8 8,9884	5 13 0.9760	18 1.0077	74 25 0.9371	31 1.8150	2 42 1.05932	37 1.64741
	4 1500.7	522.8 0.0	365 18.99	2 1.2849	9 0.9811	7 14 0.9848	L 19 1.013!	37 26 0.9 <b>8</b> 44	32 1.6223	<b>a</b> 39 1.02921	38 1.04341
	5 1513,9	527.6 6,6	365 <u>11,08</u>	1 1,1565	<u> 10 0.9680</u>	7 15 0,9998	1 28 1.021	21 27 1.0044	7 33 1,0292	1 40 1.03722	43 1.04086
	6 1497.6	527.6 9.6	367 18,99				21 0.9860	63 28 1.8664	<u>,                                     </u>		
	MÓDEL ATT!	TUDE	NDITIONS	ALPHA	0,00 BE	18.007 PB TA 0.00	18.428 ROLL PTC/P3A=	R/L 5.1	MAGH <b>PSM</b> {22}/ <b>P</b> S	. <u>* * 1.1</u>	192.6
	AVERAGE NO HEATER PAR	AMETERS	E PARAMETERS	HEATER	TOTAL PRESS		HEATER	TOTAL TENPE	RATURE= 615	•	
•		<del></del>	,	-				<u> </u>			
							. server in grapher in				
				* ***							
			-			·		·			

ORIGINAL PAGE IS OF POOR QUALITY

				SKIN[2]	SKIN[3]	SKIN(4)	21/14/31 110	NHEIT DEL-STING FE		e 1
FRAME	PSA	PTC	SKIN[1]	SKIMICI		442.7	0 • .0	207.2	712.2	_ 53
	40.67	1577.59	1568.6	119.2	121.4	112.7		234.5	679.3	54
1	10.62		1576.5	118.4	120.5	113.2	0.0			54
2	10.65	1586.53	13,013		120.1	114.0	0.0	258.4	657.2	
3	10.65	1598.64	1578.1	117.5			0.0	288.5	642.0	5
•		1584.95	1564.4	117.9	119.2	114.5		• • •	632.9	5
4	10.65	•		447.4	118.4	117.1	0.0	296.1		
5	10.65	1614.95	1608.1	117.1		119.2	0.0	312.6	626.9	. 5
6	10.64	1591.27	1577.6	118.4	118.6	71,15				
•						and the second of the second o				
					,			A NO PSM/PSA	. > 000.4054	MO P!

			PORT-22 NO PSM/PSA	NO PSH/PSA	NO PSH/PSA N	O PSH/PSA	NO PSHILLSH	MO Lains		5 1.04436
FR	PTC	TC P47/PTC	BOX1-55 MD LOWLOW	00040		6 4.99712	23 0.95969	29 1.01674	24 1.03470 0	
	1572.3	532.8 0.8365	PORT-22 NO PSM/PSA	9 8. App. 6	11 0025 11	- 4 -744R	24 0.96696	39 1.91638	41 1.04151 3	6 1,63636
٠			11.85 5 0.99676 22.6095388 11.67 3 0.86847	7 8.96514	12 0.97059 1	1,00410		74 4 41819	42 1.85942 3	7 1.04872
2	1581.3	348.0 0.000	- + A6847	6 0.99021	13 0.97758 1	8 1.61893	24 8 42420	21 1.9101.		en 1.05163
3	1682.8	547.5 8.8359	11.57		.4 A QASBS 1	9 1.01856	26 0.98585	32 1.02692	39 1.83963 .	10 200-2
	1585.0	552.7 0.0367	11.67 3 0.86847 11.18 2 1.98571 11.12 1 1.1566	9 6.98505	14 0,,,,,,		97 1.00657	33 1,83636	48 1.85199	13 1.94985
•	1,505.0		11.12 1 1.1566							
	1606.5	Dad's firming				21 4.99457	28 1.01020			
	1598.6	554.5 0,0363	11,10							
										•

	ac 10-664 R/L	5.1 NACH G.YOT
	C 6.849 PT 18.825 ROLL 8.0	.48 PSHIZZ)/PSA= 1.8413
WIND TUNNEL TEST CONDITIONS	Q 6.849 PY 18.825 PS 10.644 R/L ALPHA 0.02 BETA 8.08 ROLL 8.0 ALPHA 0.02 BETA 8.08 ROLL 9.0 PTC/PSA8 149	.48 PSM(22)/PSA= 1.8413 L TEMPERATURE= 448.
MODEL ATTITUDE	PTC= 1991.1	T SEMENALANCE ASS.
AVERAGE HODEL/MOZZLE PARAMETERS HEATER PARAMETERS	REATER TOTAL FREEDOM	
MENICA VALUE -		هاها المنافية المنافية المنافية المنافية المنافية المنافية المنافية المنافية المنافية المنافية المنافية المنافية

- *	RAME	PSA	_ PTC	SKINE11	ZK[M[S]	ekin(2)	SKIN(4)	ERREES FAHREN SKIN(5) HOL	EL-STING FE	EDEP-PIPE	TCI
	, <u>1</u> ,	7.35	1587.59	1575.0	129.6	123.1	114.9	0.0	242.3	782.3	530
	2	7.34	1563.90	1533.4	128.3	122.7	117.1	0.6	264.9	673.2	54
	3	7.35	1601.80	1578.6	126.2	121.4	119.2		287.8	652.4	55
	4 .	7.36	1616,93	1593,4	125.7	120.5	121.6	0.6	386.5	639,4	54
	5	7.35	1633.90	1625.5	124.0	120.1	123.6	0.0	323.4	632.5	54
	6	7.35	1631.87	1615.0	125,7	120.1	127.5	0.0	336.4	627.7	96
			364 7.74	4 8.7748	7 8.98270	1 12 D. <b>7654</b>	1 17 1.8522	/ Z4 1.58394	AU 1.81883	45 T. 25127 J	
		546.7 8.8			<del>-</del> '						
3	1685,5	554,5 0,0	361 7,76	3 0,9480	0 0,9775	13 0,9490	<b>9 18 1,020</b> 1	6 25 0,93809	31 9,99173	42 1,89754 3	7 1.8
3	1685,5	554,5 0,0 561,4 0,0	361 7,76 363 7,81	3 8,9488 2 1.2959	9 9 8.9927	2 13 0,9490 3 14 1.0027	9 18 1.8201 8 19 1.6122	6 25 0,930e9 6 26 1.00276	31 6,99173 32 8,98752	42 1.89754 3 39 1.89175 3	7 1.8 8 1.0
3	1685.5 1618.6	554.5 0.0 561.4 9.0 564.0 0.9	361 7,76 363 7,81 364 7,82	3 0,9480 2 1,2959 1 1,3738	9 9 8.9927	2 13 0,9490 3 14 1.0027	9 16 1.0201 8 19 1.6122 1 29 1.0033	6 25 0.930e9 6 26 1.00276 1 27 1.02963	31 9.99173 32 9.98752 33 1.00963	42 1.89754 3 39 1.89175 3	7 1.8 8 1.0
3	1685.5 1618.6	554,5 0,0 561,4 0,0	361 7,76 363 7,81 364 7,82	3 0,9480 2 1,2959 1 1,3738	9 9 8.9927	2 13 0,9490 3 14 1.0027	9 16 1.0201 8 19 1.6122 1 29 1.0033	6 25 0,930e9 6 26 1.00276	31 9.99173 32 9.98752 33 1.00963	42 1.89754 3 39 1.89175 3	7 1.8 8 1.0
3 4 5 6	1685,5 1618.6 1625.0 1625.5	554,5 0,0 561,4 0,0 554,0 0,9 563,6 0,0	361 7,76 363 7,81 364 7,82	3 0,9480 2 1,2959 1 1,3730	9 9 0.99276 9 10 0.98594	2 13 0,9490 3 14 1.0027 1 15 1.0133	9 16 1,0261 8 19 1-6122 1 29 1-6033 21 6-9861 7,348	6 25 0.930e9 6 26 1.00276 1 27 1.02963	31 0.99173 32 0.96752 33 1.00963	42 1.89754 3 39 1.89175 3	17 1.8 18 1.0 13 1.1

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## MSEC TRISONIC WIND TUNNEL - SPORT LL. ALABAR. PLUME TECHNOLOGY TEST ... NON-QUIESCENT PHASE

FRAME	₽5A	PTC	SKIN(1)	SKIN(Z)	TEMPERATU SKIN[3]	RE DATAD SKINI4)	EGREES FAHR Skin(5) P	ENKEIT CODEL-STING F	EEDER-PIPE	To
FRAME	7,37	1578.64	1560.7	119.7	125.3	114.9	8.0	209.4	723.5	532 3
2	7.37	1557,06	1541.8	118.8	123,1	115.8	0.0	234.5	686-0	541
3	7.37	1574.95	1568.6	116.6	121.B	117.5	0.0	262.7	652.0	548.4
4	7.38	1588.64	157ü.2	114.0	119.2	119.2	9 • 0	261.4	644.6	554.9
5	7,37	1613.38	1606.5	113.2	117.9	122.7	9.0	296.3	635.1	557.5
6	7,39	1594,95	1579.2	114.5	117,5	125.7	0.0	314.7	629.0	558.4
-	•									

TC P47/PTC PORT-22 NO PSM/PSA NO PSM/PSA NO PSM/PSA NO PSM/PSA NO PSM/PSA NO PSM/PSA NO PSM/PSA NO PSM/PSA FR PTC 5 1.17041 6 1.15414 11 0.98364 16 1.89591 23 0.98574 29 1.10168 34 1.19834 35 1.22182 1 1581.8 533.2 8.0363 4 0.98858 7 1.83453 12 1.09066 17 1.13473 24 8.99389 38 1.08437 41 1.21552 36 1.11899 2 1562.8 541.9 8.8364 3 0.88817 8 1.83453 13 1.15989 18 1.87238 25 1.88070 31 1.88542 42 1.23179 37 1.10798 3 1572.3 548.0 0.0364 8.87 2 1.43533 9 1.01669 14 1.12896 19 1.08437 26 1.11480 32 1.09486 39 1.21919 38 1.21395 4 1590.2 554.5 6.0364 1 1,43271 10 0.99151 15 1,13001 20 1,10011 27 1,13001 33 1,13263 40 1,23965 43 1,23021 5 1618.2 557.5 6,8363 21 1,18378 28 1,11270 6 1595,8 558.8 8,8365

1.286 TEMP 101.6 7.373 R/L 5.5 MACH WIND TUNNEL TEST CONDITIONS ..... 0 7.583 PT 18.819 PS MODEL ATTITUDE..... ALPHA 0.82 BETA 0.88 ... ROLL PSH[22]/PSA= 1.2646 PTC/PSA= 215.82 AVERAGE HODEL/MOZZLE PARAMETERS.. PTC= 1585.4 TC= 549.0 HEATER TOTAL TEMPERATURE - 643. NEATER PARAMETERS..... HEATER TOTAL PRESSURE 2190.

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ME	PSA	PTC	SKIN[1]	SKINISI	2K1K(3)	SKIN(4)	EGREES FAHRE SKIN(5) HO	CEL-STING FE	EDER-PIPE	TCH
		1605.48	1597.1	148.5	148.7	140,0	8.0	218,5	714.8	529.7
1"	7.36		1558,4	128.3	146,5	139.6	0.0	242.3	479.3	539.3
<b>?</b> _	7.46		1956.5	136.1	143.5	140.5	5.5	265.3	655,9	545.8
ž	7,36		1599.2	136.1	142,2	148.9	0.0	267.8	648.7	552,7
<b>.</b>	·· •	1611,27		188.5	140.0	143.1	0.0	303.5	431.2	554.9
5	7,39	1424.61 1421.68	<u> 1611.8</u> 1614.4	133.5	138.7	143.9	8.0	320.4	624.7	555.6

IR PTC TC P47/PTC PORT-22 NO PSH/PSA NO PSH/

5 1258.1 551.4 0.0367

6 1268,1 556,2 4,8368

TRISONIC MINU	TUNNEL HUNTSVILLE. TEST., NON-QUIESCENT	ALABAHA PHASE	7,3' 5	75
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7.30 1 1.37013 18 0.98350 15 1.81896 28 1.88198 27 1.83315 33 8.99987 40 1.81624 43 1.80462

21 0.97716 28 1.02417

					-tEMPERATUR	E DATADEG	REES FAHREN	EIT		TCH
		etc.	SK1M[1]	SKIN[2]	SKIN[3]	SKINI41	SKIN(5) HODI	L-STING FEE	DEMANTE	,
FRAME	PSA	1207.59	1197.1	111.4	108.0	104.5	0.0	227.2	691.0	529.3
1	7,32	1205.48	1190.2	109.7	106.7	105.8	0.0	250.1	668.0	536.2
2	7.32	1235,48	1220.2	109.3	106.2	109.3	0.0	269.6	656.7	543.6
3	7,32	-	1220.2	108.4	106.2	111.9	0.0	289.2	639.0	549.7
4	7.32	1227.59	1235.0	108.8	105.8	115.8	0.0	304.6	632.1	551.4
5	7. <b>3</b> 2 7.33	1253,38 1269,69	1259.2	198.4	105.3	118.8	0.0	318.6	626.0	556.6
٤	,,,,						, <u> </u>		<u>-</u>	
			DEN 4BE	. NO OSM/PS/	NO PSM/PS/	NO PSH/PSA	NO PSH/PSA	NO PSM/PSA I	O PSH/PSA	
PTC	TC P47/		_ = 0000	4 A GOE 42	11 8-9739	9 16 0.99678	23 0.94283	29 1.02734	34 0.97663	35 1,1171
	529.3 8.0				42 n.9871	9 17 1.05533	24 1.08304	38 1.02153	41 8.98588	36 1.8157
	537.1 0.0		4 9,7769	, , y, yeron	43 8.0512	6 10 1.82364	25 0.93860	31 0.99248	42 0.99881	37 1.021
1237.1	544.1 8.8	362 7.24				7 19 1.01398	26 0.99459	32 0.97716	39 <sub>0</sub> .99353	38 0.968
1223.9	550-1 8-0	371 7.26	2 1.2977	7 9 8.9993	14 013307			TT 8.00087	40 1.01624	43 1.004

			u 1.011 TEMP 182.1
	2 2 40 404 99	7.323 R/L 5.4 HAC	H 1.011 TEMP 182.1
WIND TUNNEL TEST CONDITIONS	7,207	no. 8 8	
	16, 11,	APP/PPAP SAR.SY PARIS	21/PSA= 0.9918
			9 <del>630</del> .
AVERAGE HOBEL/MOZZLE PARAMETERS	HEVIEK JOINT LARSSONES TARRE		

									E DATADE Skiniai	GREES FAMREN Skin(5) Not	HEIV EL-STING FE	EDER-PIPE	TCH
	FRAM	Ē	PSA		PTC	SKIN[1]	SKIN(2)	\$K1H{31			184.7	714.4	584.7
<u>.</u> .	. 1		7.7	<u> </u>	34.95	024.5	187.5	118.6	107.1	0.0			
	2		7.7	4 . 6	34,95	824.5	196.7	189.3	108.8		205.9	<u> </u>	589.8
	1		7,7	4 1	46.53	838.6	187.1	109,7	111.4	0.0	259.3	468.9	517.6
-	<u>3</u>				53.90	846.8	108.8	110,1	114.5	0.0	244.9	654.6	923,7
<del></del>		<b>-</b>	<u>7.7</u>	. <u></u>		865.0	195.8	100.4	115.6	0.0	261.4	641.6	528.0
- "	6		7.7		172,32 179,16	860.6	197.1	108.8	119.2	0.6	276.6	632.9	530.6
-	FR	•		47/ <u>PTC</u>		2 NO PSH/PS	SA NO PSH/PS	3 11 8.9448	<u>a no psh/ps/</u> 1 16 0.98720	NO PSH/PSA 23 0.93633	NO PSH/PSA 20 8.99674	NO PSH/PSA 34 6.98636	NO PSM/PS
				0.6372		2 0,790		2 12 0.9652		24 8.97227	3n n.97128	41 8.86842	36 1.8117
	2 8	35.	518. <u>7</u>	<b>0.0</b> 372	7. <u>14</u>	4 8.588	14 / 4·234	15 A . A . A . A . A	3. 3. 4. 4. 4. 4. 4. 4. 4. 4. 4. 4. 4. 4. 4.	05 0 03477	74 4 44970	42 0.87398	37 1.0017
	3 4	43.4	517,6	8.9372	7.17	3 0.963	79 8 0.954	30 13 1.0272	1 18 8.78476	23 813/4//	21 4140514		30 4 9341
	4 4	53.9	524.1	0.8373	7.20	2 1.261	91 <u>9 8.986</u>	26 14 1.0037	4 19 0.97227	26 1.46823	32 0.97727	28 0.89441	30 3.7343
	5 8	69.2	528.4	0.0370	7.19	1 1.369	77 <u>10 0.983</u>	7 <u>6 15 1.4292</u>	0 20 0.9777	27 1.01728	33 0.97527	48 8,88588	43 0,8793
				0.0371						28 1.01073			<del></del> - <del></del> _ ·

WIND TUNNEL TEST CONDITIONS..... 0 9.82 BETA 0.00 ROLL MODEL ATTITUDE..... ALPHA PTC/PSA= 109.99 HEATER TOTAL TEMPERATURE - 620.

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<b>*</b>	FP/	MF	PSA	PTC	SK[N[1]	SKINEZI	SKIN[3]	SKIN(4)	GREES FAHREN SKIN(5) MOD	EL-STING F	EDER-PIPE	TCH
2		1	7.49	452.52	448,1	106.2	187.1	103.6	0.0	170.4	756.9	462.1
<b>3</b>		2	7.48	446.53	441,3	104.9	106.7	104.5	9.8	182.5	734.4	475.5
ORIGINAL			7,50 %	447.06	443,4	164.9	106.2	106,7	0.0	197.7	714. <u>9</u>	483.4
2 rd		3	7.47	453,98	451.3	104.5	105.8	108.0	0.0	212,4	696.6	490.3
G AG		4		457.59	453.9	104.5	_105.3	110.6	0.8	223.7	681.5	495.1
PAGE IS		5 6 ·	7.49 7.50	468,64	462.3	185,8	105,8	113.2		235.8	668,5	497,7
-	FR	PTC	TC P47/P	TC PORT-2	2 NO PSM/ <b>PS</b> A	NO PSH/PS	A NO PSN/PS	A HO PSN/PS/	NO PSH/PSA	NG_PSH/PSA	NO PSM/PSA	NO PSM/PSA
	1	451.8	462.1 0.43	80 6.83	5 0.89843	6 8.9981	4 11 B.9785	1 16 1.8100	2 23 8.91445	29 1.02130	34 8.89171	94 4 40334
	2		475.1 0.43		4 8.89544	7 9.9635	3 12 8.9531	9 17 1.0482	6 24 1.08124	38 6,99891	41 8.78676	37 1.02862
<b>(</b>	ą.	446.8	482.5 0.03	<u>8</u> 2 6.85	3 0,95880	8 1.9126	9 13 9.9506	1 15 8.9996	9 25 0.92426	31 8.9//40	42 6.71686	3A 6.93873
	4	451.3	489.9 0.03	79 6.79	2 1.2835	9 4.9816	1 14 1.0110	6 19 0.9996	9 26 1.00227	32 8.96/8	39 6.78934	43 n.72321
	5	457.1	494.6 8.03	80 6.83	1 1.3799	4 10 0.9857	4 15 1.0141				40 6 .72897	
		449. 2	498,5 0.03	75 6,84				21 8.9638	1 28 1.03896			

	NINO TURNEL TEST COMPETICHE	A 7.467 P	18.811 P8	7.487 R/L		MACH 1.1	i i i
					.6a P	SHIZZIFFSA=	3.9115
	MODEL ATTITUDE AVERAGE MODEL/MOTTLE PARAMETERS	PTC# 453.7	TES 450.0	PTC/PBA= 65.	IBMERA	TURE - 620.	
•	MEATER PARAMETERS	MENTER HANDE	WESDAMS. And.			_	

	FRANE	PSA	PTC_	SKIN(1)	SKIN(Z)	SKIM(3)	SKIW[4]	SKIN(2)	HODEL-STING	FEEDER-PIPE	TCH
•	1	7.36	446.01	441.3	121.4	139.6	143.9	0.8	228.9	736.5	475.4
	2	7,38	442,85	438.1	119.7	136,6	142.2		238,4	715.7	485 - 1
	3	7.34	442,32	488.1	117.5	134.4	141.3	0.8	248,8	697.5	491.6
	4	7,35	450.74	444.8	115.8	132.7	140.5	0.0	257.1	661.0	496,4
	5	7.34	455.48	451.8	115.3	130.5	140.5	0.0	265.7	468.9	499,0
<b>-</b>		7,35	461.00	456.5	114.5	128.3	140.5	0.0	272.2	454.8	582.

PURT-22 NO PSH/PSA NO PSH/PSA NO PSH/PSA NO PSH/PSA NO PSH/PSA NO PSH/PSA NO PSH/PSA NO PSH/PSA 5 8.98689 6 8.97896 11 1.81428 16 1.89285 23 1.67312 29 1.89784 34 8.97843 35 1.16367 445.5 475.1 0.2582 4 9.52272 7 1.66182 12 1.61218 17 1.13782 24 1.07207 38 1.68679 41 8.68168 36 1.11257 2 441.8 484.7 0.4382 3 8.99844 8 1.11886 13 1.88947 18 1.18921 29 1.88216 31 1.88259 42 8.88957 37 1.12738 441.8 491.6 0.8522 7.32 2 1.31562 9 1.12389 14 8.99737 19 1.18536 26 1.85628 32 1.85679 39 8.79888 38 1.82893 451.3 495.9 0.0379 7.33 7,34 1 1.41828 18 1.86891 15 1.84839 28 1.89857 27 1.88627 33 1.88259 48 9.81746 43 8.81168 453.9 500.3 0.0380 21 1,84313 26 1,18258 7,33 468.7 502.8 6.0378

FRAME	PSA	PTC	SKIN(1)	SKIN(2)	TEMPERATU SKIN[3]	RE DATAD Skin[4]	SKIN(5)	HENHETT HODEL-STING	FEEDER-PIPE	TCH
	5.15	454,43	447.1	197.5	112.3	115.3	0.0	192.5	680.2	449.5
1	5.17	456.53	450.2	106.7	111.0	114.5	0.0	205.5	661.5	459.1
	5.15	457,59	451.3	184.9	110,1	115.3	0.0	217.2	647,2	466,5
3		-	450.7	105.3	109.3	116.2	0.0	227.2	633.4	472.1
4	5.13	468.22		184.0	108,8	117.5	ģ. o	236.7	622.9	476,4
5	5,13	472,32	465,0 466.0	184.9	108.8	119.2	5.0	244.9	612.5	479.9

PLUME TECHNOLOGY TEST. . . NON-BULESCENT PHASE

MSFC TRISONIC WIND TUNNEL

HUMTSVILLE ALABAMA

FR PTC TC P47/PTC PORT-22 NO PSN/PSA NO PSN/

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RAHE	PSA	PTC	SKIN(1)	SKIN(2)	SKIN(J)	ME DATAD SKIN(4)	SKIM(5)	RENHETT MODEL-STING	FEEDER-PIPE	TCH
_	4.95	466.01	458.6	159.5	178.2	179.0	0.0	220.2	684.9	465.2
. 1	4,97	459.69	456.0	157.8	176.0	177.3	0.0	229.3	669.8	473,4
2	5.03_	463,38	457.1	153.0	170.8	173.0	0.0	239.3	654,6	482.1
3	4.95	465.48	456.5	151.7	168.6	171.7	8,0	248.0	642.9	486.4
. 7 -		477,59	468.1	148.7	165.6	170.8	0.0	254,5	632.9	498.3
5		479,16	475.5	147.4	163.0	169.5	0.0	263.1	624.7	493.

TC P47/PTC PORT-22 NO PSH/PSA NO PSH/PSA NO PSH/PSA NO PSH/PSA NO PSH/PSA NO PSH/PSA NO PSH/PSA NO PSH/PSA FR 5.21 5 0.92716 6 8.98473 11 0.95886 16 0.98593 23 0.93489 29 0.98979 34 1.02459 35 0.94185 1 465.8 464.7 8.8876 5.22 4 0.81563 7 6.98283 12 0.95422 17 1.66996 24 0.95964 36 1.69169 41 0.84687 36 1.22332 2 458.1 473.0 0.0381 3 1.01067 8 9.99289 13 0.90241 18 6.97587 25 6.93721 31 1.10888 42 6.87386 37 1.89885 5.23 3 462.3 481.6 0.9381 2 1.35865 9 1.00603 14 8.92329 19 1.83464 26 0.91788 32 1.18581 39 8.85447 38 1.20898 5.22 469.7 486.4 0.0378 1 1.43907 10 0.98902 15 1.82768 26 1.07485 27 0.95732 33 1.12125 40 8.88540 43 0.88695 480.2 489.9 9.8376 21 1.06016 28 0.96737 477.1 492.9 0.0381

		-			TENPERATU	RE DATAD	EGREES FAME	HEIT		TCH
FRAME	PSA	PTC	SKIN[1]	SKIM[2]	SKIN(3)	SKIN[4]	ŞKIN(5) HO	EL-STING FE	FUEMANTAE	
7 MANE		834.43	818.6	138.3	154.8	154.3	8.0	204.6	662.8	485.1
1	5.83			='		152.2	0.0	222.8	642.5	493.8
2	5.01	836.61	<b>8</b> 26,0	137.9		/	8.0	236.9	627.3	586.7
3	5.03	<b>627.</b> <u>6</u> 6	889.7	136.1	150.9	153.0			.15 4	505.9
•	5.03	8 15,53	\$35,5	134.8	147.8	153.0	0.0	253.2	615.6	
•		AFE 40	839,7	132.2	145.7	152.2		265.7	696.0	599.8
5	5.03	855.48				153.0	8.0	276.1	599.5	514.6
6	5.80	672.85	860.2	138.9	143.5	133.0	•••			

₽R	PTC	TC 947/PTC	PORT-22	NO PSH/PSA	ND PSM/PSA NO	PSH/PSA NO	PSM/PSA I	10 PSH/PSA	MU COMPESA	MO PONITOR R	
P IX	716	10 1 1111 14			6 9.85547 11	a.95172 16	0.95634 2	23 0.92488	29 8.95480	34 8.95788 3	5 0.96943
1	836, \$	483,8 0,0369	4,89	> 9.00099	0 6149777 12			-4 - 06635	TA # 25435	41 s.91861 J	6 1.13968
2	534.4	493.8 0.6371	4,88	4 0.40542	7 8.94479 12	0.95488 17	8.94017	S4 B'anaâs	34 6.300.	20 000000	
			4 05	T a 02457	. A A. 07713 13	6.92323 16	0.98491	25 0.93324	21 8-20-80	AE OVER A	
3	827,6	200'1 0'42/7		3 41 40 10 1	9 1.81332 1		. A. 09631	on a.92554	32 1.04181	39 5.92400 3	8 1.67261
4	846.5	506.3 0.0374	4.98	2 1.31440	9 1.11332 1	6 6'49-41 TA	# # PEOOT	<u> </u>			3 6 027nB
	084 K		4.98	1 1,3986	3 10 0,99176 1	5 0,97897 21	9.96943	27 C.93478	33 1.0202	49 G'ĀSpās -	9 0492100
				·		21	0.99849	28 0.92768			
4	874.4	514,6 4.0370	4,59				P	A			

TONDETTONE Q 7.744 PT 18-827	MS 5.023 R/L 3.2 MAU
	S ROLL PIU DOMESTO DE ATET
MODEL ATTITUDE ALPMA 0.02 DETA AVERAGE MODEL/MOZZLE PARAMETERS. PTG: 849.9 TOTAL POPERURE-11	The second secon
AVERAGE MODEL/MOZZLE PARAMETERS. HEATER TOTAL PRESSURES \$14	16. HEATER -INTAL TRIBERATURE-

en i de	PSA	PTC	\$K[H[1]		SKIN[3]	SKIN(4)	SKIM(5)	HODEL-STING FE	EDER-PIPE	TCH
FRAME			1175.0		151.3		_0.0	265.3	643.8	518.
1	_				150.4		0,0	281.8	428.2	523.
· · · · · · · · · · · · · · · · · ·			1187.6		146.5		0.0	294.4	615.6	529.
3			1200.7			151.7	Q 4 0		668.2	534
	·· <del></del> · ·		1233.4		144.4	152.2	9.0	317.3	603.4	536
5	4.97	1248-11					0.8		599.5	541
<b>.</b>	4.97	1270.22	1256.5	129.2	148.0	152.2			•	

PORT-22 NO PSH/PSA NO PSM/PSA NO PSM/PSA NO PSM/PSA NO PSM/PSA NO PSM/PSA NO PSM/PSA NO PSM/PSA TC P47/PTC PTC FR 5.80 5 0.85332 6 0.87128 11 0.94114 16 8.96135 23 8.91938 29 0.94503 34 1.00254 35 0.97378 1 1204.4 518.6 8.0367 5.82 4 6.82585 7 8.95288 12 8.95435 17 8.93681 24 0.97223 38 8.96912 41 1.82741 36 1.13077 2 1209.7 524.1 0.0868 5.01 3 1.08409 8 0.98155 13 0.92793 18 8.94891 25 0.94114 31 8.98699 42 1.85383 37 1.06316 3 1213.4 529.7 0.8376 2 1.32117 9 1.02352 14 0.93493 19 0.92793 26 0.91472 32 1.82818 39 1.03518 38 1.05772 4 1243.9 534.5 0.9366 5,85 1 1.42376 10 0.96213 15 0.95746 28 8.97611 27 0.94037 33 1.04217 40 1.07093 43 1.03362 5 1245.0 537.1 0.0370 21 1.00254 28 0.92482 5,03 6 1264.0 541.0 0.0367

FRAME	PSA	PTC	SKIN(1)	SKIN(2)	TEMPERATU SKIN(3)	RE DATAD Skin(4)	EGREES FAH	RENHELT HODEL-STING	FEEDEN-PIPE	TCH
	5.00	1680.22	1575.0	124.9	133.1	130.6	0.0	199.9	651.1	516.7
1	5.01	1574.43	1545.5	123.6	131.4	136.6	0.0	225.0	626.9	521.9
2		1596.01	1581.3	123.1	130.1	136.1	0.0	248.9	610+5	525.0
3	5.01	. –		122.3	128.8	137.4	0.0	266.5	600.3	532.8
• .	_ 5.8 <u>0</u>	1595.48	1575.0	<del></del>		139.6	0.0	284.8	595.2	535.4
5	5.60	1618.74	1586.5	122,3	128.3		9.0	297.8	591.7	534,9
6	4,99	1561.80	<u> 1</u> 53 <u>6</u> .8	121.8	127.5	142.2	•••			

FR PTC	TC P47/PTC	PORT-22 NO	PSH/PSA NI	P8H/PSA H	PSM/PSA P	10 PSM/PSA	ĸO	PSH/PSA	КO	PSM/PSA	NO	PSM/PSA	NO	PSM/PSA	
•			4.45656	6 4.66588 13	L 0,9 <b>39</b> 30 1	16 9.96817	23	0.91610	29	0.94316	34	1.04521	35	0.97254	
-,			A. B1 047	7 0.94471 1	2 0.95398	17 0.93938	24	0.97022	30	0,96249	41	1.10473	36	1,13643	
	3 521.5 8.8363	_	1.48260	8 8,98259 1	3 8.92383	18 8.94471	25	0.95388	31	8.97872	42	1.12947	37	1.86222	
-	2 928,8 0,6363		1.31733	9 1.81 <del>9</del> 78 1	4 0.93879 :	19 6.92383	26	0.91688	32	1.62433	33	1.10396	36	1.07072	
	6 532.8 6.0365		1.41861 1	0 0.96945 1	5 9.96326	28 6.97563	27	0.93698	33	1.83745	40	1.14167	43	1.10628	
	3 535.4 <b>0.0361</b>			T		21 1.60346									<b>-</b> .
6 1700.	0_534.9_0.0364	7,67													

	 NetEl	TEST COMMITIONS	0 7,746	PI	18.036 PS	5.063	R/L	5.2	MACH	1.487	TEMP	107.5	
HOBEL A	TTITU	108	. ALTHA 9.		tce 525.2	PTC/PSA=	317.	78	PSH1221/P	SA= 1.85	13		
HEATER	PARAM	E7883	HEATER TOTA	H. PE	ESBURE- 2140.	HEATEN	IBIAL	IBAPEN	A1UKE# 51	, <b>-</b>			

 FRAHE	PSA	PTC -	SKIN(1)	SKIN(2)	TEMPERATUR	SKIN[4]	SKIN(2)	HODEL-STING	FEEDER-PIPE	TCH
 		_		188.8	114.0	112.7	8.0	164,7	671.5	511.1
 	4.82	• BE4 97	1533.0	107.1	112.7	114.0	0.0	192.9	644.2	519.
2	1,00	1771.51	1846.5	187.1	112.7	114.0	0.0.	221.1	626.0	530.2
 	4,84	35/1.2/	4000 7	488.8	411.9	115.3	0.0	244.5	615.1	537.
 •	4,87	1577,59	1222.3	100.0		110 2		261.8	619.5	539,
 5	4.85	1601.27	1572.8	187,5	333.7			280.1	609,5	543.
6	4.63	1581,27	1562,3	106.7	110.6	120.5	- Air	50417		

FR PTC TC P47/PTC PORT-22 NO PSH/PSA NO PSH/

WIND TUNNEL TEST CONDITIONS..... Q 7.719 PT 18.817 PS 4.847 R/L 5.2 MACH 1.589 TEMP 185.2 MODEL ATTITUDE..... ALPHA 8.82 SETA 0.00 ROLL 0.0 AVERAGE MODEL/MOZZLE PARAMETERS.. PTC= 1576.9 TC= 538.3 PTC/PSA= 325.33 PSM(22)/PSA= 1.1767 HEATER PARAMETERS... HEATER TOTAL PRESSURE= 2890. HEATER TOTAL TEMPERATURE= 630.

	•				SKIN(2)	TEMPERATUR	E DATADE SKIN[4]	EGREES FAHRE SKIN151 MO	NHEIT	DER-PIPE	TCH
<b>:</b> ·	FRANE	PSA	PTC	SKIN(1)	96.7	96.7	100.1	0.0	140-0	544.1	492.5
	1"	1.21	858.68	16.0		96.7	99.7	0.3	169.1	557.9	499.0
	2	1.21	843 <u>, 41</u>	17,6	95,4		99.7	0.0	197.3	566.2	506.8
<b>9</b> 9	3	1.21	842 <u>.</u> 36	15.0	94.5	96.2	-	0.0	222.0	572.2	512.0
ORIGINAL OF POOR	4	1.21	849,73	15.5	94,5	95. <u>4</u>	-6 ,	0.0	244.1	576.5	515.0
GINAI POOR	5	1.21	861.84	_ 14.5	94.1	95,8	4		262.3	579.2	518.0
~ E:	•	1.21	<u>872.</u> 36	16.6	94.1	95.8	1,3,2	0.0	202.0	• • • • • • • • • • • • • • • • • • • •	
PAGE IS QUALITY A-191	2 842.9 3 643.4 4 858.3 5 862.4	TC P47/ 491.2 8.9 499.8 8.0 506.3 9.8 512.0 0.8 514.6 0.4	368 1.0 373 1.0 373 1.0 373 1.0	5 0.528 4 0.784 1 3 1.473 2 2 2.573 3 1 2.968	25 6 8.8556 29 7 8.8764 65 8 9.9116 31 9 8.986 32 18 0.965	35 11 0.9327 37 12 0.9837 38 13 0.9881 25 14 0.9607 23 15 1.0015	4 16 0.9696 1 17 0.9461 7 18 0.9671 7 19 0.9843 5 20 0.991 21 1.785	15 23 0.93461 12 24 8.96451 14 25 0.9786 34 26 0.9639		41 0.83988 42 0.88623 39 0.98371	36 0.90789 37 0.94866 38 1.01747
e programme	MIND TURN HODEL AT AVERAGE	TTIBE	MDITIONS. E PARAMETI	ALPHA		90.815 PS ETA 0.80 Co 506.8 SURS# 1208.	ROLL PTC/PSA= HEATER	0.6 783_43	PSM(22)/PS4: RATURE: 625.	1,6359	

	FRAME	PSA	PTC	SK[N[1]	SKIN121	SKIN[3]	E DATADE SKIN(4)	SKIN(5) N	DDEL-STING F	EEDER-PIPE	TCH
	•	10.64	9.16	9.7	90.2	88.4	88.4	0.8	80.6	36.9	83,
	<del>-</del>		9.16	9.7	89.7	88.9	88.9	0.0	81.5	_39·S	83.
		10.42	9.16	9,7	89,3	88.9	89.3	0.0	81.5	37.3	54,
		10.63		9.7	89.3	89.3	89.3	0.0	81.1	36.9	85.
	•	10.45	9.16		89.7	89.7	89.7	0.8	81.9	36.9	85.
	5	10.64	9,16 <sub></sub>	9.7		90.2	90.2	0.0	82.4	37.3	8 <u>5</u> .
	FR PTC	TC P47/PTC	P0#1-2	2 NO PSH/PS	A NO PSH/PS/	NO PSM/PS	A NO PSM/PS/	NO PSM/PS	A NO PSH/PSA	NO PSH/PSA	NO PSM/
	1 18,2	85.8 8,9554	1,9,00	5 0,9964	8 6 8,9786	11 0,9561	2 16 0.97757	23 0,9593	9 29 0.99903	34 6.91866	35 1,04
	2 9,2	85.0 1,0570	10,04	4 0.9504	7 0.9644	8 12 0. <b>961</b> 5	7 17 1.81249	34 8,9426	6 30 0.98630	41 0,98375	36 1.02
	3 9.2	86.3 1.4576	10.87							42 0.89829	
	4 9.2	87.1 1.065	10.09	2 1.0794	9 0.9786	6 14 0.9732	1 19 0.9797	26 8.972	8 32 8.9775	19 4.93539	36 0.93
•	5 9.2	86.7 1,465	10.05	1 1.1586	9 10 0.9430	3 15 0,9833				40 8.91466	43 8.70
	6 9.2	87.1 1.865	1 19-09				21 8.9484	<b>5</b> 8 0.9924	18		

1
_
6
W

FRAME	PSA	PTC	SK[M[1]	SKINE21	SKIN(3)	SKINI4}	GREES FAHRENH SKIFLSI HODE	L-STING FEE	BEK-LILE	TCH
		4.95	6.0	76.7	74.6	76.3	0.6	66.8	30.8	67.2
1	7.41			78.0	75.4	77.6	8 + 8	67.6	30.8	67,⊀
2	7.46	4.95	6.\$			78.5	0.0	68.9	31.7	67.5
3	7.42	4.95	5.5	79.8	76.7			68.5	31.2	67.5
4	7.42	4,95		79.8	78.0	79.8	0 • 0		30.8	69.4
5	7.43	4.95	6.0	80.2	78,0	80.6	0.0	68.9		69.4
6	7.44	4,95	6.0	81.5	79.3	81.5	0.0	69.8	31.7	97.4
1	TC P47/P 5.0 69.4 1.23 5.4 68.9 1.25 5.5 69.4 1.11 5.5 69.4 1.13 5.5 70.7 1.13 5.5 71.5 1.11	69 6.78 04 6.79 81 6.78 03 6.78 13 6.78	5 0.8966 4 0.8888 3 0.9555 2 1.2846 7 1 1.3669	9 6 0.9893 7 7 0.9685 3 8 0.9971 3 9 0.9828	8 11 0.96436 5 12 0.9581 9 13 0.9336 9 14 1.0068	3 16 1.8844 3 17 1.8583 5 18 8.9992 4 19 1.6834 8 20 8.9984	A NC PSM/PSA 1 8 23 9.91823 2 8 24 1.01333 3 7 25 0.91780 3 4 26 1.00552 3 2 27 1.01593 3 5 28 1.03183	9 1.83268 3 50 0.99771 6 51 0.96946 6 52 0.99302	84 8.89408 81 8.74359 82 0.73422 89 0.73839	35 1.129 36 0.992 37 1. <b>8</b> 23 36 0.933
ODEL	UMMEL TEST COM ATTITUDE E MODEL/MOZZLE PARAMETERS	DABAMETE	ALPHA	8.88 BE		ROLL PTC/#SAc	The state of the s	SH[22]/ <b>PS</b> A=	<del>-</del>	102.7

1 5.16 4.95 3.4 128.2 131.6 125.7 8.0 181.6 7: 2 5.15 4.95 2.6 123.6 128.8 125.7 8.0 181.6 7: 3 5.15 4.95 3.4 123.1 127.9 124.4 0.8 179.9 7:	7,5 284.0
2 5.15 4.95 2.8 123.6 128.8 125.7 8.0 181.6 73 3 5.15 4.95 3.4 123.1 127.9 124.4 0.8 179.9 7	7.5 284.0
3 5,15 4,95 3.4 123,1 127,9 124,4 0.8 179.9 7	
7, 7, 17, 17, 17, 17, 17, 17, 17, 17, 17	7,5 203.
A AC T A 1201/ ACT	7.5 282.
124.4 121.0 0.0 176.4 7	17.0 202,
	7.9 201.

		TO BE A STATE OF THE STATE OF T
FR	PTC TC P47/PTC	PORT-22 NO PSM/PSA NO PSM/PSA NO PSM/PSA NO PSM/PSA NO PSM/PSA NO PSM/PSA NO PSM/PSA
PH	P10 10 1477	4.97 5 0.87551 6 8.98897 11 0.97886 16 0.92194 23 0.95115 29 8.94591 34 8.95564 35 8.96688
1	9.5 205.5 0.7593	4.97 5 0.87551 6 0.98897 11 0.97888 18 0.7217 13 0.7217
	• •	20 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
S	5.5 205.5 0.7654	4.77 4 6.77307 7 9.773 A. 1.16424
	5.0 203.3 0.8332	4.96 3 1.81631 8 8.99758 13 9.95115 18 8.92249 25 8.93317 31 1.82885 42 8.78999 37 1.86424
3	3.0 20010 01000	4.97 2 1.33635 9 8.99009 14 0.95265 19 8.95714 26 8.90996 32 1.81855 39 8.71299 38 1.85146
4	4.4 202.5 0.9323	4.97 2 1.33835 9 8.99007 14 0.77285 17 0.77217 45 0.77217
5	5.0 203.3 <b>0.8</b> 332	
	5.0 202.0 0.8332	4.97
6	3+4 50510 A10005	

MIND TUNNEL TEST CONDITIONS..... Q 7.751 PT 18.013 PS 5.165 R/L 5.3 MACH 1.464 TEMP 104.2

MODEL ATTITUDE...... ALPHA 0.00 BETA 0.00 ROLL 0.0

AVERAGE HODEL/NOZZLE PARAMETERS.. PTC= 5.0 TC= 293.7 PTC/PSA= 0.98 PSM1221/PSA= 0.9821

HEATER PARAMETERS.... HEATER TOTAL PRESSURE= 1600. HEATER TOTAL TEMPERATURE= 610.

OF POOR QUALITY

~~	PSA	PTC	SKIN[1]	SKINISI	SKIN(2)	SKIN[4]	EGREES FAHREI SKIW[5] HOI	DEL-STING FEE	DEA-PIPE	TCH
RAME				78.8	78.9	80.2	6.8	78.5	116.6	85
1	1.22	₫.28	-71.3	•	79.3	79.8	8.0	78.5	116.6	85
2	1.22	0.25	-71.8	78.0			0.0	78.5	116.2	85
3	1.21	6.50	-71.3	78.0	78.9	79.8			116.6	85
4	1,22	0.88	-70.6	79.8	79.3	80.2	8.0	78,9		85
		8.26	-71.3	78.5	78.9	80.2	0.0	79.3	117-1	
5	1.22	,			78.0	79.3	8.8	78.5	116.2	85
6	1.21	9.25	-72.4	77.2	ièto					

		TC P47/PTC			stu/SCL	HO PSH/PSA	NO PSH/PSA	NO	PSH/PSA	NO PSM/PSA	NO PSM/PSA	10 PSH/PSA
FR	PTC	TC P47/PTC	PORT-22 NO	PSM/PSA	MA ESHALOW	NO 1 2/1/1 9/1	44 5 07224	21	n.93659	29 8.94678	34 1.28550	55 0.73157
1	g.3	86.3 2.8880	1,19 5	0.82252	6 8.86464	11 0.94041	10 8.4.554			30 0 0414B	41 8.28843	36 0.91112
2	0.8	87.1 8.6477	1.19 4	8.76914	7 9.88884	12 8,98680	17 6.98221	24	8.95560	28 8.44100	41 6.28643	77 6 05175
		_		4 45212	a a . 01645	13 6.98040	18 6.96524	25	0.97734	31 3.61950	45 0.54001	0, 0,,,,,,
3		87.6 0.7389		a ##847	a a 973e7	. 14 n.96142	19 8.98753	26	6.96078	32 9.99262	39 g.24831	38 6.99262
4	0.8	87.6 0.6893	1.19 2	2.3371		4 40317	90 0 09767	27	t.97798	33 3.81956	40 8.24577	43 8.28996
5	8.6	87.6 8.6893	1,19 1	2,59874	16 9.96842	12 1'AAST.	24 0.3320					
6	8.8	86.7 8.4893	1,19	. =			21 0.98498	3 20	6 - A-02.	<del></del>		
•	<b>+</b> ,-											· <del> </del>

	4 548	R/L 18.3 MACH 3.489 TEMP 1
NIND TURNEL TEST CONDITIONS 9 18	.296 PT 98.873 PS 1.215	
HOBEL ATTITUDE	90. 47.1 PSC/PSAS	8.59 PSM1221/PSA= 8.9886
AVERAGE MOREL/MOZZLE PARAMETERS. PTCS HEATER PARAMETERS	TOTAL PRESSURE: 1995. HEAVER	TOTAL TEMPENATURES. 640.
MEATER PARAMETERS		

					TEMPERAL!	PE DATAD	AFRICA BOOKER	SEL-STING FEE	pea-Pire	TC*
FRAME	PSA	PTC	SKINILI	SKIN[2]	SKIM[3]	SKIHE41	Pulutia no.		329.7	143.5
FRENE			17.6	108.4	114.5	115.2	<b>ថ</b> ្មម	138.3	224.0	
1	1.21	0.26	1			117.9	0.0	137.9	256 - 6	142.6
ż	1.21	ú.2 <b>6</b>	17.0	107.5	113.1			138.7	329.9	143.1
-	1.21	ū.26	14,5	107-1	112.7	116.2	G.0			142.6
3	1.44			440.1	111.9	115.3	G • C	138.3	329.9	172.4
4	1.21	a.26	14.5				ij.C	138.3	329·0	148
5	1.21	0.26	14.5	104.6	189.7	114.9	4,0	_	329.5	143.2
,			12.4	104.5	109,3	112.7	0.0	137.0	354.3	. 44. 42
6	1.21	ΰ <b>.26</b>	12.7	20 300	· ·					

		PORT-22 NO PSM/PSA NO
FR	PTC TC P47/PTC	PORT-22 NO PSM/PSA NO PSM/PSA NO FSM/PSA NO FSM/PSA NO FSM/PSA NO FSM/PSA NO PSM/PSA NO
1	-0.8 143.9-0.5854	0.34 5 0.82390 6 0.86277 11 0.94631 10 017723 30 0.93843 41 0.29503 36 0.96226
_	4 0810	
2	•	2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
3	-0.3 143.9-1.8475	0.34 3 1.45282 6 0.7177 13 0.77882 2 0.96154 32 0.93414 32 0.98065 38 0.99213 0.34 2 2.58834 9 0.98783 14 0.96489 19 0.98783 23 0.96154 32 0.93414 32 0.98065 38 0.99213
4	-0.3 143.5-1.8475	0.34 2 2.53634 9 0.98763 14 0.98469 15 0.9876 37 0.93159 46 3.29507 43 3.35968
5	-0.3 143.1-1.7243	0.34 2 2.53634 9 6.70705 14 0.70405 24 0.99468 27 6.7787 33 0.93154 46 3.29503 43 3.35968
		21 1.44982 20 0.79747
<u>6</u>	-0.3 142.2-1.8475	

	- 44 288 BT 98.862 P5	1.214 R	10.6	MACH	3.489	TEHO	102.
HIND TUNNEL TEST CONDITIONS HOREL ATTITUDE	t TCs 143.4		-0 22	PSH(221/PS	A= 3.27	84	
AVERAGE MODEL/MOZZLE PARAMETERS	HEATER TOTAL PRESSURES 400.						

		**			TEMPERATU	RÉ DATAD	EGREES FAHRE	SHEIT		TCH
FRANE	PSA	PTC	SKIMITI	SKINEZI	SKIN(3)	SKIN[4]	SKIN(5) MC	BUEL-STING FEI	DEM+PIPE	100
1	1.21	422.89	15.5	154.8	165.6	178.2	0.0	253.2	485.5	469-1
2	1.21	422.89	18.2	151.7	162.6	175,6	0.0	235.8	501.1	476.4
3	1.21	424.47	12.4	150,4	169.4	173,0	0.0	249.7	514.6	485.1
4	1.21	439,78	16.6	147.0	158.2	171-7	0.0	261.0	525.8	485.6
5	1,71	437.62	12.4	146.1	156.9	169.5	0.0	274.0	534.9	492.5
6	1.21	442,89	11.8	145.2	155.2	169.1	9.0	284.0	542.8	495.9

PRT TC P47/PTC PBRT-22 NO PSH/PSA NO PSH/PSA NO PSM/PSA

			SKIN(1)	SKIN[2]	TEMPERATU	RE DATA9 Skin[4]	EGREES SAHRES	HE!T DEL-STING FE	DES-PIPE	7CH
FRAME	PSA	PTC	-	- · · ·	182.5	175.1	9.0	234,5	958.4	312.5
1	1.71	1468.15	13.4	100.0				24.0 5	565.7	496.3
2	1.21	1497.62	16.0	160.0	188.8	174.7	0.6	268.5	303	
•			–	156.1	177.7	172.5	8.0	285.3	568.3	521.9
3	1.21	1512.36	15.0	15041				384.3	371.4	525.8
4	1.21	1522.36	17.6	154.8	175.1	172.1	_ 0 • 0	304.0	. * · * · .	
•				155.2	173.8	172.1	0.9	323.0	571.8	527,1
5	1.21	1515,52	17.1	133.5	4/225			270 0	572.7	528.4
6	1.21	1497.62	17.6	151.3	171.7	171.7	0 • 8	339.0	2.614	

FR PTC TC P47/PTC PORT-22 NO PSM/PSA NO PSM/

WIND TUNNEL TEST CONDITIONS..... 8 10.298 PT 90.019 PS 1.214 R/L 10.6 MACH 3.480 TEMP 103.9 MODEL ATTITUDE..... ALPMA 6.00 BETA 0.00 ROLL 0.0 AVERAGE MODEL/MOZZLE PARAMETERS.. PTC= 1502.9 TC= 521.9 PTC/PBA= 1237.39 PSHL22)/PBA= 1.0403 MEATER PARAMETERS... HEATER TOTAL PRESSURE= 2045. HEATER TOTAL TEMPERATURE= 600.

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## PLUME TECHNOLOGY TEST. . . NON-QUIESCENT PHASE THE THE THE THE DATA --- DEGREES FARRENHETT----TCH SKINIS) MODEL-STING FEEDER-PIPE SKINI41 SKINE31 SKINIZI SKIN[1] PTC PSA 545.8 FRAME 697.9 215.0 0.0 85.4 88.9 87.6 12.9 1501.84 1.21 1 546.2 568.0 246.7 6.0 86.3 68.0 86.7 18.2 1481.84 1.21 2 550.0 547.7 276.1 0.0 88.0 88.9 68.4 16.8 1490.26 1.21 3 554.6 634.2 301.3 0.0 88.9 89.3 67.6 12.9 1502.89 1.21 552.7 624.2 326.6 0.0 92.3 88.0 86.3 16.5 1511.31 1.21 553.6 618.2 340.3 0.0 94.1 88.9 88.4 12.4 1487,62 1.21

MSEC TRISORIC WIND TUNNEL HUNTSY; LE ALABA"A

				bru (084	NO PSH/PSA NO	PSM/PSA NO	PSM/PSA	NO	PSH/PSA	NO	PSH/PSA	ND	PSI	4/PSA	NU P	,241£24	•
FR	PTC	TC P47/PTC	PORT-22	NO PORTES	6 8,86162 11	- 01744 16	n 97251	23	0.93873	29	0.93618	34	٥. ١	92487	35 . [	1,72142	ļ
1	1493,9	545,4 8.9362	1,22	5 0,83844	6 5,56102 11	3,9398 10			. 04840	7.0	a.93682	41	1.	02732	36 i	9.90559	,
_	.480 2	545.8 D.@363	1.23	4 6.79407	7 8.88584 12	0.98844 17	9.94893	24	0 + AGGGG	30	9,,000		_	-0407	.,	n 0463i	a
					F 74440 4 0	n. 69163 18	0.96868	25	0,98354	31	8.49115	7 6	1.	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	•	•••	
3	1479.2	550.6 Q. <b>Q367</b>				A 44205 19	n.98780	26	8.96932	32	0.43222	3,5	. • :	7.5	- E	7	
4	1498.7	554.0 9.8367	1.24	2 2.59952	10 8.97123 15		- 0044 P	25	E6199. n	33	0.93363	40	1	13757	43	1.0311	4
5	1511.3	552,7 0.0364	1,25	1 2,99464	10 8.97123 15	1.88625 29	0.434To	e. ,	g		•						
						51	1.78731	28	0.97633					•			
6	1457.	5 553,6 9,8364	4,4		-								_		_		

<u> </u>		PG GOD PS	1.214	R/L	18.5	HACH	3.463	TEMP	105.0
MIND TUNNEL TEST CONDITIONS MODEL ATTITUDE	ALPHA 0.02 PTC= 1498.0 HEATER TOTAL	9ETA 9.00 TG= 558.3 PRESSURE* 1995.	ROLL PTC/PSA= HEATER	TOTAL	TEMPER	ATURES 6	PSA= 1.0: 20.		
METICK AND AND ARMOUNT AND AND AND AND AND AND AND AND AND AND									

	*-			TEMPERATE	PE DATA	EGREFS FAMRE	NHE ! T		
PSA	PTC	SKIN[1]	SKIN[2]	2K1M[3]	SKIN(4)	SELNIS; MO	UEL-STING F	EEDER-FIPE	754
1.21	1567.62	1542.4	84.1	85.4	54.1	٥٠٥	140.9	713.6	535.4
1.21	1559.20	1534.5	63.7	85.6	85.8	9.0	181.2	671.9	537.1
1.21	1588.26	1560.8	84,5	65.8	85.8	0.0	218.1	644.2	542.6
1.21	1546.05	1517.1	63.7	85.8	88.0	0.0	248.4	625.5	541.4
1.21	1504.99	1479.2	84.5	86.5	90.2	9.9	275.3	612.5	538.8
1.21	1460.26	1440.8	85.0	86,3	92.3	0.0	297.0	602.6	537.1
	1.21 1.21 1.21 1.21	1.21 1567.62 1.21 1559.20 1.21 1568.26 1.21 1546.05 1.21 1504.99	1.21     1567.62     1542.4       1.21     1559.20     1534.5       1.21     1560.26     1560.6       1.21     1546.05     1517.1       1.21     1504.99     1479.2	1.21 1567.62 1542.4 84.1 1.21 1559.20 1534.5 83.7 1.21 1580.26 1560.8 84.5 1.21 1546.05 1517.1 83.7 1.21 1504.99 1479.2 84.5	PSA         PTC         SKIN[1]         SKIN[2]         SKIN[3]           1.21         1367.62         1542.4         84.1         85.4           1.21         1559.20         1534.5         63.7         85.8           1.21         1560.26         1560.6         84.5         85.8           1.21         1546.05         1517.1         83.7         85.8           1.21         1504.99         1479.2         84.5         86.3	PSA PTC SKIN(1) SKIN(2) SKIN(3) SKIN(4)  1.21 1567.62 1542.4 84.1 85.4 54.1  1.21 1559.20 1534.5 83.7 85.6 85.8  1.21 1580.26 1580.8 84.5 85.8 85.8  1.21 1546.05 1517.1 83.7 85.8 88.0  1.21 1504.99 1479.2 84.5 86.3 90.2	PSA PTC SKIN(1) SKIN(2) SKIN(3) SKIN(4) SPIN(5) MO  1.21 1567.62 1542.4 84.1 85.4 54.1 8.0  1.21 1559.20 1534.5 83.7 85.6 85.8 9.0  1.21 1560.26 1560.8 84.5 85.8 85.8 8.8  1.21 1546.05 1517.1 83.7 85.8 88.0 0.0  1.21 1504.99 1479.2 84.5 86.3 90.2 9.0	1.21     1567.62     1542.4     84.1     85.4     54.1     6.0     140.9       1.21     1559.20     1534.5     83.7     85.6     85.8     0.0     181.2       1.21     1588.26     1560.8     84.5     85.8     85.8     0.0     218.1       1.21     1546.05     1517.1     83.7     85.8     86.0     0.0     248.4       1.21     1504.99     1479.2     84.5     86.3     90.2     9.0     275.3	PSA PTC SKIN[1] SKIN[2] SKIN[3] SKIN[4] SPIN[5] MOUEL-STING FEEDER-FIPE  1.21 1567.62 1542.4 84.1 85.4 84.1 0.0 140.9 713.6  1.21 1559.20 1534.5 83.7 85.8 85.8 0.0 151.2 571.9  1.21 1580.26 1560.8 84.5 85.8 85.8 8.0 218.1 644.2  1.21 1546.05 1517.1 83.7 85.8 86.0 0.0 248.4 525.5  1.21 1504.99 1479.2 84.5 86.3 90.2 0.0 275.3 612.5

FR	PTC	TC P47/PTC	PORT-22	NO PS	H/PSA	MO	PSH/PSA	NO	PSM/PSA	NO	PSM/PSA	МÜ	PS4/PSA	NO	PSH/PSA	NO	PSM/PSA	NO	PSH/PSA	
1	1566.6	534.9 0, <u>036</u> 3	1.23	5 0.	83685	6	<b>0.8602</b> 7	11	0.93355	16	0.97178	23	0.93864	29	0.93992	34	8.92590	35	9.72517	<b>_</b>
2	1568.8	536,7 0,0365	1,24	4 8.	79336	7_	0.68321	12	0.98962	17	0.94757	24	8.96732	39	9.93801	-11	1.03742	36	0.98806	
3	1575.5	549.6 0.0363	1.25	3 1.	48921		4.91698	13	0.99345	16	0.96732	25	8.98453	31	8.93291	÷2	1-19815	37	6.95811	
4	1554,5	541.9 0.0364															0.99898			
5	1505.8	539.3 9.8364															1 13385			
6	1458,7	537,5 0.0363									1.70396									

HIND TUNNEL TEST CONDITIONS..... Q 10.267 PT 60.998 PS 1.214 R/L 18.4 MACH 3.480 TEMP 188.3 MODEL ATTITUDE...... ALPHA 0.02 BETA 0.00 ROLL 0.0 AVERAGE MODEL/MOZZLE PARAMETERS... PTC= 1536.8 TC= 538.5 PTC/PSA= 1265.93 PSH1221/PSA= 1.0224 MEATER PARAMETERS... HEATER TOTAL TEMPERATURE= 626.

				SKIN(2)	TEMPERATU	RE DATA5 SKINI41	EGREES FAHREI	HEIT DEL-STING FE	EDER-PIPE	TCH
FRAME	PSA	PIC	SKIM[1]	SKINIE	Settiens					391.9
	1.21	848.11	836.0	81.9	79.8	67.2	0.0	180.8	537.1	<b>7.1.1</b>
1	1.21	847.06	829.7	62.8	80.2	68.1	0.0	197.3	517.2	396,7
2	1457	51.000			20.7	68.5	0.0	212.4	498.1	401.4
3	1.21	847.59	830.2	80.5	79.3	00.7	• • • •	· <del>-</del>	-	5
4	1.21	863.90	845,5	80.2	79.3	70.2	0 - 0	226.3	485.5	404.5
				81.5	79.8	72.0	_0.0	239.7	476.9	406.2
5	1.21	857,06	841.8	01,5				<b>854</b> 0	469.1	489.2
6	1.21	671.80	857.6	80.2	79.8	73.3	0.0	251.0	40712	

R PTC TC P47/PTC PORT-22 NO PSM/PSA NO PSM/P

WIND TUNNEL TEST CONDITIONS..... Q 18.298 PT 98.883 PS 1.214 R/L 18.6 MACH 3.488 TEMP 103 MODEL ATTITUDE..... ALPHA 8.08 BETA 0.88 ROLL 8.8 AVERAGE MODEL/MOZZLE PARAMETERS.. PTC= 455.3 TC= 461.1 PTC/PSA= 784.34 PSM(22)/PSA= 8.8335 } NEATER PARAMETERS.... HEATER TOTAL TEMPERATURE= 480.

	•		*****		UZ DATA****	ESREÈS FAHREN	WEST	DER-FIPE	TCH
PSA	PTC	SKIME1]	2KIN(51	2x fut 5 i	3818143				390.6
4 59	1215.74	1187.6	127.5	136.1	137.4	,0 . 0	189.9	26414	
1.51		<del>-</del>	406 1	• 3A. a	136.1	9.0	207.2	438.1	397.5
1.21	1210.74	1146.2	127.7	<del>-</del>	_		222.5	480.3	399.3
1.21	1214.43	1193.4	124.0	132.2	135.7	9.4	*****	•	
_		4408.1	124.0	131.8	134.8	2.0	236.3	466,9	<u>401.9</u>
1.51	1874.70	117011			. 74 4	6.0	245.8	458.2	404.9
1.21	1228.11	1286.5	121.8	130.1	107.7	4.0	,	453 4	486.2
1,21	1252.32	1227.1	181.0	128.5	134.4	.0.0	268.5	47211	-9012
	1.21 1.21 1.21 1.21	1.21 1212.74 1.21 1210.74 1.21 1214.43 1.21 1219.16 1.21 1228.11	1.21 1210.74 1187.6 1.21 1210.74 1196.2 1.21 1214.43 1193.4 1.21 1219.16 1198.1 1.21 1228.11 1286.5	1.21     1210.74     1187.6     127.5       1.21     1210.74     1196.2     125.7       1.21     1214.43     1193.4     124.8       1.21     1219.16     1198.1     124.0       1.21     1228.11     126.5     121.8	PSA PTC SKIN[1] SKIN[2] SKIN[3]  1.21 1212.74 1187.6 127.5 136.1  1.21 1210.74 1196.2 125.7 134.0  1.21 1214.43 1193.4 124.8 132.2  1.21 1219.16 1198.1 124.0 131.8  1.21 1228.11 1286.5 121.8 138.1	PSA PTC SKIN[1] SKIN[2] SKIN[3] SKIN[4]  1.21 1212.74 1187.6 127.5 136.1 137.4  1.21 1210.74 1196.2 125.7 134.0 136.1  1.21 1214.43 1193.4 124.8 132.2 135.7  1.21 1219.16 1198.1 124.0 131.8 134.8  1.21 1228.11 1286.5 121.8 130.1 134.4	PSA PTC SKIN(11 SKIN(21 SKIN(3) SKIN(4) SKIN(5) NULL  1.21 1210.74 1187.6 127.5 136.1 137.4 0.0  1.21 1210.74 1196.2 125.7 134.0 136.1 0.0  1.21 1214.43 1193.4 124.8 132.2 135.7 0.8  1.21 1219.16 1198.1 124.0 131.8 134.8 0.0  1.21 1228.11 1286.5 121.8 130.1 134.4 0.0	PSA PTC SRING! SRING!  1.21 1212.74 1187.6 127.5 136.1 137.4 0.0 189.9  1.21 1210.74 1196.2 125.7 134.0 136.1 0.0 207.2  1.21 1214.43 1193.4 124.8 132.2 135.7 0.8 222.8  1.21 1219.16 1198.1 124.0 131.8 134.8 0.0 236.3  1.21 1228.11 1286.5 121.8 138.1 134.4 6.0 246.8	PSA PTC SKIN(1) SKIN(2) SKIN(3) SKIN(4) SKIN(5) NOVEL-STI-4 FEEDERS 1.21 1212.74 1187.6 127.5 136.1 137.4 0.0 189.9 524.1 1.21 1210.74 1196.2 125.7 134.0 136.1 0.0 207.2 476.1 1.21 1214.43 1193.4 124.8 132.2 135.7 0.8 222.8 480.3 1.21 1219.16 1198.1 124.0 131.8 134.8 0.0 236.3 466.9 1.21 1228.11 1286.5 121.8 130.1 134.4 0.0 246.8 458.2

	PORT-22 NO PSH/PSA NO PSH/PSA NO PSH/PSA NO PSH/PSA NO PSH/PSA NO PSH/PSA NO PSH/PSA NO PSH/PSA NO PSH/PSA
	A A A A A A A A A A A A A A A A A A A
1 1813.4 389.7 9.037	1.17 4 8.79597 7 8.88984 12 8.99813 17 8.99736 24 8.99367 38 8.94845 41 8.97982 36 8.91341
2 1218.4 397.5 4.436	1.17 4 6.79557 7 6.88964 12 8.99010 27 015500 25 0 48475 31 8.94916 42 1.03316 37 8.96182
3 1212.9 398.8 6.836	1.17 3 1.49433 8 8.92551 13 1.89131 18 8.97563 25 0.98475 31 8.94916 48 1.83316 37 8.96182
4 1220.2 401.9 8.836	1.17 2 2.48520 9 8.99749 14 8.96318 19 8.99494 26 0.97074 32 8.94208 39 8.99685 38 1.92743
5 1231.3 404.9 0.936	1.18 1 2.93779 18 6.97456 15 1.61214 26 1.68259 27 9.99112 33 9.94144 40 1 97074 43 8.58167
6 1256.8 486.2 9.836	9: 1.7267A 28 0.97583

	10.200 PT 91.036 PS	1.215 R/L 10.6	MACH 3.480 TEMP	7401,
HIND TUNNEL ISST CONDITIONS	LPHA 0.00 SETA 0.00	PTC/PEAR 1809.32 PT HEAVER VOTAL TEMPERAL	MISSI/PBA: 0.9654	,
MOREL ATTITUDE. APPRAGE MAGEL/MAZZLE GARAMETERS. HEATER PARAMETERS.	EATER TOTAL PRESSURE 1480.	HEATER TOTAL TEMPERAT	FURE: 465.	<u>-</u>
METICA AMMINESEMENT				

ORIGINAL PAGE IS OF POOR QUALITY

	PTC				SKIN141		DEL-STING FE		
1.21 15	23.38	1500.2	102.3	105.8	101.9	0.0	137.4	479.0	370.7
			101.9	105.3	101.9	0.0	159.1	458.2	380.2
_			99.7	184.D	102.3	e. <b>9</b>	179.9	443.5	382.
_			98.8	184.0	101.4	0.0	199.6	434,4	388.
					102.7	0.0	215.5	430.5	393.
				_	102.7	8.9	231.5	429.2	392.
1	1.21 15 1.21 15 1.21 14	1.21 1505.48 1.21 1507.59 1.21 1479.69	1.21 1505.48 1483.4 1.21 1507.59 1481.3 1.21 1479.69 1451.8	1.21 1505.48 1483.4 99.7 1.21 1507.59 1481.3 98.8 1.21 1479.69 1451.8 98.8	1.21 1505.48 1483.4 99.7 184.0 1.21 1507.59 1481.3 98.8 184.0 1.21 1479.69 1451.8 98.8 102.7	1.21 1505.48 1483.4 99.7 184.0 102.3 1.21 1507.59 1481.3 98.8 184.0 101.4 1.21 1479.69 1451.8 98.8 102.7 102.7	1.21 1501.88 1483.4 99.7 184.0 102.3 0.0 1.21 1507.59 1481.3 98.8 104.0 101.4 0.0 1.21 1479.69 1451.8 98.8 102.7 102.7 0.0	1.21 1501.86 1481.3 101.9 105.3 102.3 0.0 179.9 1.21 1505.48 1483.4 99.7 184.0 102.3 0.0 179.9 1.21 1507.59 1481.3 98.8 184.0 101.4 0.0 199.8 1.21 1479.69 1451.8 98.8 102.7 102.7 0.0 215.5 1.21 1479.69 1451.8 98.8 102.7 102.7 0.0 215.5	1.21 1501.86 1481.3 101.9 105.3 101.7 0.0 179.9 443.5 1.21 1505.48 1483.4 99.7 184.0 102.3 0.9 179.9 443.5 1.21 1507.59 1481.3 98.8 104.0 101.4 0.0 199.8 434.4 1.21 1479.69 1451.8 98.8 102.7 102.7 0.0 215.5 430.5

FR	PTC	16 P47/PTG	PORT-22	HO PSH/PS	NO PSH/PSA	NO PEH/PSA	NO PSH/PSA	NO PSH/PSA	NO PSH/PSA	NO PSH/PSA NO PSH/	PSA
	4504	174 4 4 8364	1.25	5 0.8449	7 6 0.07011	11 4.93992	16 0.97943	23 0,94820	29 0.95338	34 8,94058 35 8.72	700
_			4.94	4 0.8463	7 a.8 <del>95</del> 95	12 1.00173	17 g.96159	24 0.59727	. 28 B+25504	48 1.64316 25 8417	
-	4844 4	TRO 4 4. 8343	1.24	3 1.5206	B 8.92526	13 1.00364	18 6.97819	25 9.98899	27 8-4-10	45 1-10541 2, 411-	
			4.24	2 2.6247	6 9 1.44189	14 0.96477	19 1.00046	26 8.9749/	25 8.3412	33 77 00555 107 1700	77.
	1482.0	393.2 0.6365	1.24	1 2,9586	7 18 8.97568	15 1.81384	26 1.50814	27 6.99580	22 0.349V	i 48 j'izana in itan	1487
6	1442.3	392,3 0,0565	1,23			"	21 1.6918	5 28 9 <u>.98</u> 971			

ROLL PTC/PBA+ 1231.65 PSH(22)/PBA REATER TOTAL TEMPERATURE- 250.

FRAME	PSA	F*C	5K1 [1]	SKINIZI	CKI-131	SKIN[4]	GREES FARRE SKIN(5) 40	LEL-STING FE	<u> </u>	TCH
1	0.35	516.15	500.6	51.n	91.7	92.6	0.0	96.8	283,1	155.2
2	0.37	519.73	509.2	93.6	91.7	92.F		191,9	224,9	144.8
3	0.38	521.63	511.3	91.9	92.3	93.2	0.5	105.3	22:-3	134.4
4	r.38	525,52	516.0	91.9	72.3	35.5	ũ • O	1^6.2	2:3.3	125.3
5	0.38	529.73	519.7	91.9	92.3	93.5	3.0	198.4	161.5	115.5
6	<u>n.40</u>	53:,26	520.8	91.0	91,9	93.2	9.0	196.0	15:4	103.0
	ic P47/P1	to Post-2	2 60 PS4/PS/	40 PS4/PS/	L NO PSHIPSA	<u> </u>	40 PS-/PS4	NO PSM/PSA	Nº =5-/=54	40 PSM/PS
	155.6 0.037		5 1.1358	3 6 1.12569	1: 1:12529	16 1.1763	9 23 1.14597	29 1.17639	34 1,15611	35 1.095
	145.7 0.03							30 1.13593		
	135.7 6.03							31 1,11555		
	126 4-63							32 1.12544		
	117.1 3.35							33 1.17549		
	100.8 0.03						7 28 1.1 <b>3</b> 5c3			
					<u></u>					
MARCI ATI	EL TEST CON		AHGUA	0.02 dE	C.454 PS TA }.J? = 131.6	PTC/PSA=	0.0 1371.62	PS4[22]/PSA		77.8
HEATER P	IOBEL/NOZZLE IRAN ETERS	**************************************	HEATER	TOTAL PRESS	UPE= 600.	PERTER	TOTAL TEMPE	PATUPE :.		
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	2. 4000				E TECHNOLOG	<u></u>					
		-51	PTC	S-17(1)	2-14(5)	SAT. 131	F JATAPE	GREES FAMPEN	-EIT EL-STING FE	EDEQ-PIPS	₹CH
<u> </u>	FRAME			915.5	94.9	95.7	37.5	6 • 0	1^0 <u>.1</u>	134,7	93.4 _
<u> </u>		.41	933.41	910.6	94.5	96,7	97,•_	ə.o	99.3	112.7	83.7
<u> </u>		<u>.</u>		927.6	95.4	97.1	97.5	0.3	97.5	75.4	74,6
<u></u>	3	0,39	944.47	927.6	95.8	97,1	97.1	0.0	95.4	51.5	65.5
<b>5</b>	4	C.39	941.84		95,4	96.7	97.1	0.0	91.9	5â.9	60.7
TO AGE IS	<u>5</u>	0,42	951.31	935,5	95.4	96.7		9+0	88.4	5 <u>9.</u> 4	55.1
	FR PTC	TC P47/	PTC PORT-22	NO PSM/PS	NO PSH/PS	NO PSM/PS	A NO PSH/PS	A NO PSMZPSA	NO PSH/PSA	NO PSM/FSA	NO PSH/PSA
		94.9 0.0		E 4 2064	2 6 1-1866	6 11 1.1963	9 16 1.2450	2 23 1.21584	29 1.254/5	34 1.24705	
		85.4 0.0		4 4 6004	2 7 1.09912	2 12 1.1088	5 17 1.1769	4 24 1.11857	30 1.17694	41 1.16721	36 1.10000
				# 4 A70A	7 8 1.0602	1 13 1.8993	2 18 1.1477	5 25 1,09912	31 1.13863	42 1.12630	37 1,49912
- ,		76.7 0.0		2 4 0004	2 9 1.0602	1 14 1.0991	2 19 1.1574	B 26 1.10885	32 1.12630	39 1.10585	38 1,12030
		67.2 0.0		4 1 1185	7 10 1.0699	4 15 1.1086	35 20 1.1477	5 27 1,11857	33 1,138n3	40 1,12830	43 1,12030
		61,6 0,0		· ·	<u>,                                    </u>			1 26 1,12830			
	6 948.7	55-9 QiQ	375 0.46	· · · · · · · · · · · · · · · · · · ·							
<del> ; -</del>	atho TONA	EI TEST CO	INDITIONS		071 PT	0.473 P	S 0.398	R/L 0.1		0.504 TEMP	78.5
	HODEL ATT	ITUCE	E PARAMETER	ALMHA	44 4 TO	TA 0.00 * 73.6 SURE# 1100.	PTC/PSA=	2366.64 TOTAL TEMPER	PSM[22]/PSATURE= 0	A# 1.1688	
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			PLU	E 125-40FC	AT TESTOOT	<u>, v- wc 1 = 3 - 5</u>				
_					TF-PERATU	ee jayeee	13 <b>3</b> 4585 Fare	<u> </u>		
FRAHE	PSA	PTC	ektälij"	<u>541×121</u>	28.17 [31]	5K15[4]	_Sk1\{\$} #	OUFL-STING F	Egria-Piri	TC#
	Γ.43	1377.15	1353.9	63.6	50.2	79.3	2.6	75.9	67.6	65.7
	₹ <u>.41</u>	1361.64	1355.5	63.2	<u>-1,1</u>	75.8	ي يو و	77.2	ēā.s	58.1
<u>3</u>	r.42	1394,99	1367.6	51.9	80.2	78.5	<u>0.1_</u>	74,6	53.3	52.5
4	0.42	1396.05	1374.5	£1.9	79,0	77.2	<u> </u>	71.5	46	_47.7
j	0.43	1406.57	1387.5	<b>61.</b> 1	79,3	75.4_			39.5	44,2
				52.4	±0.2	7*.~	· · · · · · · · · · · · · · · · · · ·	64.2	34.7	39.0
	<u>!</u>	+1.4.2.2.5			:					
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					<del></del>	. <u>-</u>				
FP PTC	TC P47/						:5_P\$+/P\$			
	67.2 1.0						<u> 31 23 1.1530</u>			
2 1383.9	<u>59.0 0.5</u>	368 0.21	4 1.1872	7 1.125	6. 12 <u>1.134</u> 7	5 17 1 1590	65 24 1.1439	0 30 1.18965	41 1.1672r	36 1.14390
3 1395.5	50.9 0.0	367 9,51	3 1 1072	9 3 1.197	29 13 1.1347	<u>5 13 1,1890</u>	65 25 <u>1.153</u> ų	5 31 1.1896	42 1.10226	37 1,15305
4 : 365.6	4,,4 3,0	30721	2 1.1547	5 9 : 7	2 <del>9</del> 14 1.1439	<u>0 19 1.1591</u>	5 20 1.1713	5 32 1,18;5.	39 1.15°/	36 1.16220
							65 27 1,1622			
6 1-10.6							85 28 1.1805			
						- 4-7	7/L 9.1	er A true	SAS TEMP	75.5
MOSEL ATT	ITHLE	<u> </u>	alf	3.	STA D.JO	ADLL	. • •			and the second
A ESASE SA	<u> </u>		5 PTC= <u>13</u>	75 <u>.:</u> 7374: 34531	<u>1= 52,5</u> SuP== 1603.	PTC/2:52= -::12:	33.2.56 Thiad Tempe	25-1231/62 9410565	.E.F.,€.₽±.	
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				بي عو	<u>'a 190- Non</u>	: <u>▼ *=51,.,40</u>	7-301#26#21	PHANE -	• • •= • • • • •-		
	FRAME	SA	<u>۔۔۔</u> عبر	S<12.[1]	541V(2)	S#1 [3]	5 DATA () E 5 5 1 5 1 4 1	GREES FAHRE	HEIT FL-ST1V3 FE	535a+b b;	ТСН
	1	<b>.5</b> 6	1639.73	1:13.9	73.2	40.=	^2.7		51,1	40.1	60.3
			- 5= 7 <u>3</u>	1=34.9	63,3	<u> Šfastu</u>	<u>.</u>	\$••	ذ ، يَهُ	40	55.1
	3	0,49	:847.2F	1:25,5	73,7	56,5	6".3		<b>59.</b> 5	43.5	49,4
	4.	^,43	1734.47	1700.6	71.1	÷7.2	58.5		56.0		43.4
	<del></del>	-,47	1552,24	1523.9	7:.2	12.5	54.4		55.1	_:4:7	<u>40.3</u>
	3	r.45	1352.50	1364.5	67.2	56.€	54.6	0.J	<u>5</u> 1.6	30+4	37.7
<del></del>										_ <del></del>	
	FR PTC	 [** 5477]	eic Poki+2	2 .0 254/25	4 10 PS /FS	= P5"/P5A		12 05 //254	-	NO PSY/PSA V	J PSMYPS
	1 1540.0	51.5 0.0	36 <u>0 0.56</u>	5 1.1852	5 o 1.1852	: 11 1.1:525	16 1.23399	23 1.21152	29 1.25023	34 1.21776 3	5 1.1852
	2 1556.6			4 1.1203	4 7 1.1365	7 12 1.13657	17 1.19340	24 1.15251	33 1.19345	41 1.16935 3	0 1:1446
=	3 1348.2	57 ).:	361 0.27	3 1.1203	<u>4 = 1.12:3</u>	4 15 1.13657	18 1.19345	25 1.15281	31 1.18528	42 1.16093 3	7 1.1528
	4 1733.4	42.1 0	3:4 5,57	2 1,1446	9 9 1,12:3	4 14 1.1=093	19 1,19340	25 1,16965	32 1.18528	39 1.10 7 3	≘ 1,1697
	5 1546.0	4	<u>3</u> g^ _ 0.26	1 1.1122	2 14 1 575	: 15 1.11222	<u> 20 1.16705</u>	27 1-12845	33 1,16393	40 1.12545 4	3 1 1365
	7 1353.4	3 <u>&gt;.:</u> 0,.	<u>37</u> 13.53	<u> </u>			_2 <u>1</u> _1.435°5	25 1.58786			
	MOSHL ATTI	[165E	ESITIONS	ALPHA S STrs 17	ე.იე ÷E	7.554 FS TA 3.00 = 48.8 U44= 7103.	POLL (	3.0	P54[22]/P5A	.47, TC-P	7≒.∀
			<b>v</b>								
				<del>,</del> , ++					<u> </u>		

FRAME PTC PSC TC PSNI441/PTC PSNI451/PTC PSNI461/PTC P		05 SEPTEMB	ER 1973		MSFC	TRISONIC WI	N TUNNEL Tost Nozzi	HUNTSVILL Le calibra	E, ALABAHA Tion hase		TEST 575	RUN 401/6
FRAME PSA PIC SKINI2] SKINI2] SKINI3] SKINI4] SKINI4] SKINI5] MODEL-STING FEEDEM-PPE 1CA  1 0.43 1040.67 1621.8 108.4 111.9 114.9 152.6 156.5 496.4 373.3  2 0.41 1647.62 1618.1 107.5 118.6 114.9 150.0 161.2 471.7 381.9  3 0.40 1689.19 1652.4 107.5 111.4 115.8 151.3 204.6 456.5 389.3  4 0.41 1672.08 1637.1 108.0 111.4 110.6 150.4 225.0 446.2 394.5  5 0. 2 1676.56 1658.2 108. 111.9 117.5 153.0 2 2.8 3.9 396.7  6 0.43 1623.93 1586.6 108.8 112.3 118.4 147.8 259.7 440.4 397.5  FRAME PTC PSC IC PSNI441/PTC PSNI451/PTC PSNI401/PTC PSNI481/PTC PSNI491/PTC  1 1653.93 0.00 374.1 8.88674 0.8398 0.03286 0.03756 8.83991 8.83933  2 1644.90 0.00 381.1 8.83615 0.84838 0.03286 8.83792 0.03628 0.03973  3 1691.83 0.00 389.3 8.83745 0.03967 0.03270 0.03769 0.03565 0.03906  4 1677.62 0.00 394.5 8.03765 8.84018 0.03307 0.03768 0.83665 0.03956  5 1625.51 0.00 396.7 8.83767 0.03988 0.83288 0.03749 8.83584 0.03526  6 1625.51 0.00 397.5 0.83767 0.03988 0.83288 0.03749 8.83584 0.03594					P				P			
1 0.43 1640.67 1611.8 108.4 111.9 114.9 152.6 156.5 496.4 373.3 2 0.41 1647.62 1618.1 107.5 118.6 114.9 150.0 181.2 471.7 381.9 3 0.40 1669.19 1652.4 107.5 111.4 115.8 151.3 204.6 456.5 389.3 4 0.41 1672.88 1637.1 108.0 111.4 116.6 150.4 225.0 446.2 394.5 5 0.2 1676.56 1658.2 108. 111.9 117.5 153.0 2 2.8 3.9 396.7 6 0.43 1623.93 1586.6 108.8 112.3 118.4 147.8 259.7 440.4 397.5  FRAME PIC PSC IC PSMI441/PIC PSMI451/PIC PSMI401/PIC PSMI461/PIC PSMI461/PIC PSMI491/PIC 1 1653.93 0.00 374.1 0.00874 0.03998 0.03296 0.03756 0.03591 0.03933 2 1644.98 0.00 381.1 0.00874 0.03998 0.0328 0.03750 0.03528 0.03993 3 1691.83 0.00 389.3 0.00474 0.03998 0.03290 0.03729 0.03565 0.03993 4 1677.62 0.00 394.5 0.03765 0.03987 0.03290 0.03769 0.03565 0.03906 5 1675.51 0.00 396.7 0.03767 0.03988 0.03328 0.03749 0.03584 0.03926 6 1625.51 0.00 397.5 0.03778 0.04000 0.03301 0.03762 0.03598 0.03594		FRAHE	P5A		•			RE DATA Skin(4)	DEGREES FAR SKIN(5)	MENHETT MODEL-STING	FEEDER-PIPE	TCH
3 0.40 1689.19 1652.4 107.5 111.4 115.8 151.3 204.6 456.5 389.3 4 0.41 1672.88 1637.1 108.0 111.4 110.6 150.4 225.0 446.2 394.5 5 0. 2 1676.56 1658.2 108. 111.9 117.5 153.0 2 2.8 3.9 396.7 6 0.43 1623.93 1586.6 108.8 112.3 110.4 147.8 259.7 440.4 397.5  FRAME PTC PSC TC PSNI441/PTC PSNI451/PTC PSNI471/PTC PSNI461/PTC					1611.8	108.4	111.9	114.9	152.6	156.5	496.4	373.3
3 0.40 1889.17 1652.4 187.5 111.4 110.6 150.4 225.0 446.2 394.5  4 0.41 1672.88 1637.1 108.0 111.4 110.6 150.4 225.0 446.2 394.5  5 0. 2 1676.56 1658.2 108. 111.9 117.5 153.0 2 8 3.9 396.7  6 0.43 1623.93 1586.6 108.8 112.3 118.4 147.8 259.7 440.4 397.5  FRAME PTC PSC TC PSN(44)/PTC PSN(45)/PTC PSN(46)/PTC PSN(47)/PTC PSN(48)/PTC PSN(49)/PTC  1 1653.93 0.00 374.1 8.88874 0.83998 0.03296 8.03756 8.83591 8.83933  2 1644.98 0.00 381.1 8.83615 0.84838 0.03328 8.83792 0.03628 0.03973  3 1691.83 0.00 389.3 8.83745 0.03967 0.03270 0.03729 0.83565 8.83906  4 1677.62 0.00 394.5 8.83767 0.03967 0.03270 0.03768 0.83605 0.03951  5 1675.51 0.00 396.7 8.83767 0.03988 0.03288 0.03749 8.83584 0.03926		5	0,41	1647.62	1618.1	107.5	118.6	114.9	150.0	181.2	471.7	381.9
5 0. 2 1676,56 1658.2 108. 111.9 117.5 153.0 2 2.8 3.9 396.7 6 0.45 1623.93 1586.6 108.8 112.3 118.4 147.8 259.7 440.4 397.5  FRAME PTC PSC TC PSMI441/PTC PSMI451/PTC PSMI401/PTC PSMI471/PTC PSMI481/PTC PSMI491/PTC 1 1653.93 0.00 374.1 8.88874 0.83998 0.03296 8.83792 0.03591 8.83933 2 1644,98 0.00 381.1 8.93615 0.84938 0.03328 8.83792 0.03628 0.03973 3 1691.83 0.00 389.3 8.63745 0.03967 0.03270 0.03729 0.83565 0.03906 4 1677.62 0.00 394.5 8.83767 0.03967 0.03307 0.03768 0.83665 0.03951 5 1675.51 0.00 396.7 8.83767 0.03988 0.03288 0.03749 8.83584 0.03926		3	0.48	1689.19	1652,4	107.5	111.4	115.8	151,3	204.6	456,5	389,3
FRAME PTC PSC TC PSN(44)/PTC PSN(45)/PTC PSN(47)/PTC PSN(48)/PTC PSN(48)/PTC PSN(48)/PTC PSN(49)/PTC 1 1653.93 0.00 374.1 0.06874 0.8398 0.03296 0.03756 0.03591 0.83933 2 1644.98 0.00 381.1 0.83815 0.84838 0.03328 0.83792 0.03628 0.03973 3 1691.83 0.00 389.3 0.00 394.5 0.03967 0.03270 0.03729 0.83565 0.03906 4 1677.62 0.00 394.5 0.03788 0.04838 0.03307 0.03768 0.83605 0.03951 5 1675.51 0.00 396.7 0.03767 0.03988 0.03288 0.03749 0.83584 0.03926 6 1625.51 0.00 397.5 0.03778 0.03988 0.03301 0.03762 0.03598 0.03940		4	0.41	1672.88	1637.1	106.0	111.4	116.6	150.4	225.0	446.2	394.5
FRAME PTC PSC TC PSN(44)/PTC PSN(45)/PTC PSN(46)/PTC PSN(47)/PTC PSN(48)/PTC PSN(49)/PTC 1 1653,93 0.00 374.1 0.00874 0.03998 0.03296 0.03756 0.03591 0.03993		5	0. 2	1676.56	1658.2	108.	111.9	117.5	153.0	2 2.8		396.7
FRAME PTC PSC TC PSN(44)/PTC PSN(45)/PTC PSN(47)/PTC PSN(47)/PTC PSN(49)/PTC  1 1653.93 0.00 374.1 0.00874 0.03998 0.03296 0.03756 0.03591 0.83933  2 1644.98 0.00 381.1 0.03815 0.84038 0.03328 0.03792 0.03628 0.03973  3 1691.83 0.00 389.3 0.00 389.3 0.00745 0.03967 0.03270 0.03729 0.03565 0.03966  4 1677.62 0.00 394.5 0.03788 0.04011 0.03307 0.03768 0.04605 0.03951  5 1675.51 0.00 396.7 0.03767 0.03988 0.03288 0.03749 0.03584 0.03926  6 1625.51 0.00 397.5 0.03778 0.04000 0.03301 0.03762 0.03598 0.03940	<u> </u>	6	0.43	1623.93	1586.6	108.8	112.3	118.4	147.6	259.7	440.4	397.5
FRAME PTC PSC TC PSN(44)/PTC PSN(45)/PTC PSN(45)/PTC PSN(46)/PTC P					<u> </u>					····		
1 1653,93 0.00 374.1 0.00874 0.03998 0.03296 0.03756 0.03591 0.83933 2 1644,98 0.00 381.1 0.03615 0.84038 0.03328 0.03792 0.03628 0.03973 3 1691.83 0.00 389.3 0.02745 0.03967 0.03270 0.03729 0.03565 0.03906 4 1677.62 0.00 394.5 0.03768 0.04011 0.03307 0.03768 0.03605 0.03951 5 1675.51 0.00 396.7 0.03767 0.03988 0.03288 0.03749 0.03584 0.03926 6 1625.51 0.00 397.5 0.03778 0.04000 0.03301 0.03762 0.03598 0.03940						<del> </del>		<del></del>		- · <del></del> · <del></del>	<u> </u>	
1 1655,93 0.00 361.1 0.03615 0.04038 0.03328 0.03792 0.03628 0.03973 3 1691,83 0.00 389.3 0.00745 0.03967 0.03270 0.03729 0.03565 0.03906 4 1677.62 0.00 394.5 0.03788 0.04011 0.03307 0.03768 0.03605 0.03951 5 1675,51 0.00 396.7 0.03988 0.03288 0.03749 0.03584 0.03926 6 1625,51 0.00 397,5 0.03778 0.04088 0.03301 0.03762 0.03598 0.03940		FRAME	PTC	PSC		TC PSN1443	PTC PSHITS	I/PTC PSN(	461/PTC PSI	(471/PTC PSN	(481/PTC PSN	(49)/PTC
3 1691,83 0.00 389.3 6.63745 0.03967 0.03270 0.03729 0.83565 0.03966 4 1677.62 0.00 394.5 0.03788 8.04011 0.03307 0.03768 0.83605 0.03951 5 1675,51 0.00 396.7 0.03767 0.03988 0.03288 0.03749 0.83584 0.03926 6 1625,51 0.00 397.5 0.03778 0.04886 0.03301 0.03762 0.03598 0.03940		<u> </u>	1653,93	0.0	3	74.1 0.0	<b>6</b> 874 0.	03998	0.03296	0.03756		6.83933
3     1691.83     0.00     369.5     0.03768     0.03768     0.03768     0.03768     0.03768     0.03768     0.03768     0.03768     0.03768     0.03768     0.03768     0.03769     0.03768     0.03769     0.03769     0.03986     0.03769     0.03762     0.03598     0.03940		2	1644,98	0.0	3	81.1 0.0	3615 0.	8403E	0,03328	8.83792	0.03628	
5 1675.51 0.00 396.7 0.03767 0.03988 0.03288 0.03749 0.03584 0.03926 6 1625.51 0.00 397.5 0.03778 0.04888 0.03301 0.03762 0.03598 0.03940		3	1691,83	0.0	3	89.3 5-4	<del>274</del> 5 0.	03967	0.03270	0.03729	0.83565	
6 1625,51 0.00 397,5 0,03778 0,04880 0,03301 0,03762 0.03598 0.03940		4	1677.62	0.0	9 3	94.5 0.0	3765 6.	04011	0.03307	0.03768	<del></del>	
B 1027,51 0,00 077,7 0,007,7 0		5	1675,51	0.0	3	96.7	3767 0.	03988	0.03286	· · · · · · · · · · · · · · · · · · ·		
The second secon		6	1625,51	0.0	0 3	97,5 6.6	3778 - 0.	04000	0.03301	0,03762	0.03598	0.03940
TUNNEL STATIC PRESSURE: 0.417 HEATER TOTAL PRESSURE: 2100. HEATER TOTAL TEMPERATURE: 560. ALPHA: 0.02							• / •					
		TUNNEL STA	TIC PRESSU	RE= 0.417	HEAT	ER TOTAL PRE	SSURE= 2100	HEAT	ER TOTAL T	EMPERATURES S	SO. ALPI	4A= 0.02
								- <del></del>				
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		ER 1973		PLU E	TECHNOLOG	WIND TUNNE BY TEST 1	NOZZLE CALIBR	ATIOR RHASE			
54						tF PEI	RATURE DATA	-DEGREES FAH	IRENHETT		
K	FRAME	PSA	PTC	SK[N[1]	SKINIZ			SKIN[ ]	MODEL-STING	FEEDER-PIPE	TCH
Ž	1	0.44	1281.30	1261.3	133.5	5 143	.1 156.5	152.2	178.2	539.3	361.5
KIGINAL	2	0.41	1259.72	1233.4	133.5	5 142	.6 155.6	150.4	195.5	500.1	374.6
TO A	3	0.42	1283.40	1259.7	133.	5 <u>143</u>	.1 156.5	150.0	213.7	485.1	382.8
CH	4	0.44	1313,40	1287,6	134.6	8 143	.5 157,4	152,2	231.5	479.4	388.
PAGE IS	5	0.45	1310,77	1280.8	134.	0 142	.2 157.4	152.2	246.7	460.0	394,1
	0	0,47	1320.25	1294.5	133.9	5 <u>142</u>	.6 157.8	148.7	260.5	452.1	396.7
	FRAME	PTC 1279.19				441/PTC PS	N(45)/PTC PSN	1461/PTC PSF	0.03780	N(48)/PTC PSI	N(49)/PTC 0.03949
		PTC 1279,19	) 041	00 36	51.5			0.03314	0.03780	0.53688	0.03949
(	1	1279,19	7 0+1	00 36 90 31	51.5 75.0	0.03867 0.03864	0.04012 0.04073 0.04087	0.03314 0.03370 0.03384	0.03780	0.03666	0.03949
(	1	1279.19	) (14) (14) (14) (14)	00 36 90 37 00 36	51.5 75.0 32.8	0.03867 0.03884 0.03822	0.04012 0.04073 0.04087 0.04022	0.03314 0.03370 0.03384 0.03330	0.03780 0.03635 0.038 0 0.03759	0.23688 0.03666 0.03681 0.03619	0.03949 0.04012 0.04028 0.03967
(	1 2 3	1279,19 1269,77 1279,19	7 Q+1 7 Q+1 3 Q+	00 36 00 37 00 36 00 36	51.5 75.0 32.8 39.7	0.03867 0.03864	0.04012 0.04073 0.04087	0.03314 0.03370 0.03384	0.03780	0.03666	0.03949

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	05 S PT MB E E	R 1973 E		MSFC TR PLUME TE	CHNOFOCA L	D TUNN L EST BOZ	HUNTSVILL LE CALIBRA	. , ALABAHA LEION PHASE		f ST 575 £	RUN 40370
.1		<del></del>						DEGREES FAR	RENHETT		TCH
	FRAME	FSA			SKIN121		SKIN(4)		HODEL-STING		358.9
	1	0.37	757.06	743.9	106.2	115.3	124.4	150.0	168.6	559.7	
		0.37	739.69	726.0	104.9	114.5	124.0	150.0	184.2	536.7	371.1
	3	0.38	742.32	728.6	186.7	115.3	124.9	151.3	201.2	521.1	381.5
		8.40	743.90	727.1	105.3	114.9	124.4	152.6	215.0	506.8	389.7
	5	0.46	754.95	742.3	107.1	115.3	125.7	151.3	230.2	499.4	399.7
e :	6	0.43	766.01	753.4	106.2	115.3	125.7	152.2	242.3	492.5	494,5
	FRAME	P C	PSC			1	T		1	1[48]/P C PSN	Ţ
	1	757.86	0.00	359,	4 0.63	953 0	.04147	0.03451	0.03944	0.03750	0.04094
		738.11		371.	1 . 3		. 414	3445 0 D	. 3942 0 D	. 3747	0 0 0
(	3	740.74	0.00	381.			. 4125	0.03433	0.03923	0.03734	0.04076
	4	743 90	0 00	390	2 0 63	938 0	04130	0 03436	0 03924	B 03736	0 84081
	5	753.90	0.08	399.	7 8.03	930 0	.84124	0.83430	0.03912	0.03735	0.64867
		763.90	0.00	404.	9 0.03	925 0	.04123	0.03429	0.03913	0.03730	0.04070
	TUNNEL STA	TIC PRESSUR	IE* 0.391	HEATER	TOTAL PRES	SURE= 110	G. HEA	TER TOTAL TO	EMPERATURES !	520. ALPH	A= 0.02
				** * ··	· <del></del> -	<del></del>	*** *** ****				
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05	SEPTENBE	R 1973		MSFC TRISONION PLUME TECHNOL	C WIND TUNNE	L HUNTSVI	LLE, ALABAHA RATION PHASE		TEST 575	RUN 46470
<u> </u>	RAME			[N[1] SKINI	51 SKINI3	si ski <u>ni</u> ∢	DEGREES FAI	RENHEIT HODEL-STING -1372.9	PEENEH-FIFE	TC4 -1392.0
	0	0.93 -188	0.17	78.8 214	.2 173.	190	7 211.1			- <del>7</del>
	FRAME	PTC	PSC	TC PSN	1[44]/PTC PSI	4[45]/PTC PS	SNE463/PTC PS	N{47}/PTC PS	N(48)/PTC PSI	1491/PTC
	3	471.41	0.00	383,2	0.04001	0.04178	0.03506	0.03994	0.03759	0.04129
		475.62	0.00	391.0	0.04001	0.04190	0.03510	0.04001	n.05798	6.04134
	<del></del>	480,35	0.00	398.0	0.04003	0.04185	0.03511	6.03996	0.03795	0.04135
	6	484.04	0.00	404,5	0.04014	0.04186	0.03516	0.03993	0.03801	0.04145
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	05 SEPTEMB	ER 1973		HSFC T LUNE T	ECHNOLOGY I	DST NOZZL	E CALIBRAT	, ALABAMA IDN HASE		TEST 575	RUN 404/:
<u> </u>				P				P			
1	FRAME	PSA	PIC	SKIN(1)			E DATA++-D Skin[4]	EGREES FAHRE SKIN(5) MO	NHETT DEL-STING F	EEDER-PIPE	TCH
- · · -	: !! = :* : 1	0.50	63.38	52.8	166.9	191.2	205.5	1 7.8	22 .6	52 .5	36 .6
			4	4	166.9		205.5	150.	233.7	51 .6	373.7
		0.53	65.8	56.0		198.7		4		508.1	383.7
		6.53	471.80	462.8	167.8	10.3	205.1	147,8	243.6		
		0.55	476.53	466.5	166.0	189.9	205.1	148.3	252.3	502.0	391.5
<del></del>	5	0.55	481.27	473.9	168.6	190.7	205.5	152.6	261.4	497.7	397.5
	. 6	0,57	483.90	474,4	167.8	189.4	205.1	147.8	270.1	495.5	403.6
	FRANC		PSC		PSN(44)	D C PSUI451	/P C PSWI4	61/P C PSN[4	71/P C PSNI	481/P C PSN	
<del></del>	FRAME	P C		Ť		Ţ	7	T	T '	<b>T</b>	T
	0	14,43	3 0.0	<u>0 150</u>	1.00	800 1.0	0000 1	.000GO 1	.84080	1.00000	1.00000
!	TUNNEL STA	TIC PRESSU	URE= 0,538	HEATER	R TOTAL PRES	SURE: 0.	HEATE	R TOTAL TEMP	ERATURE=	G. ALPH	A* 0.02
	TUNNEL STA	TIC PRESSU	URF= 0,538	HEATER	R TOTAL PRES	SURE: 0.	HEATE	R TOTAL TEMP	ERATURE:	D. ALPH	A* 6.02
•	TUNNEL STA	TIC PRESSU	URF= 0,538	HEATER	R TOTAL PRES	SURE: 0.	HEATE	R TOTAL TEMP	ERATURE=	D. ALPH	A* 6.02
•	TUNNEL STA	TIC PRESSU	URF= 0.538	HEATER	R TOTAL PRES	SURE: 0.	HEATE	R TOTAL TEMP	ERATURE:	D. ALPH	A* 6.02
•	TUNNEL STA	TIC PRESSI	URE= 0,>38	HEATER	R TOTAL PRES	SURE: 0.	HEATE	R TOTAL TEMP	ERATURE*	O. ALPH	A* 6.02
•	TUNNEL STA	TIC PRESSU	URF= 0.538	HEATER	R TOTAL PRES	SURE: 0.	HEATE	R TOTAL TEMP	ERATURE:	D. ALPH	A* 6.02
•											
•											
•	TUNNEL STA										
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TEST	575	RUN	405/0
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,	SEPTEMBER 1973	PLUHE	TECHNOLOGY TEST NUZZI	HUNTSVI E CALIBBI	E. A	PHASE

·	05 SEPTEMB	IER 1973		HSFC PLUHE	TRISONIC M	TEST NU	ZZLE CALIBB	BTIONLPHASE			
A R	FRAME	PSA	PTC	SKINIII	SKIN[2]	TEMPERÄ SKIN(3)	TURE DATA SKIN[4]	-DEGREES FI SKIN(5)	HRENHEIT	FEEDER-PIPE	ТСН
な ア	1	0.46	1882.85	1844.4	132.7	137.9	125.3	148.	178.0	173.0	68.9
	5	0.46	1838.64	1806.5	133.1	137.9	125.7	150+4	167.8	126.2	70.7
PAGE IS	. <u>.</u>	0,46	1657.59	1624,4	132,2	137.9	125,3	148,	7 156.5	95.8	59.0
		0.45	1493.38	1465.0	132.7	137.9	125.3	151.	143.9	75.4	51.2
3 55-	5	0.44	1337.06	1316.0	132.7	137.4	124.9	150.	133.1	62.4	46.8
	<u> </u>	n.43	1214.95	1195.5	133.1	137.0	124.4	148.	123.6	53.6	44.7
	PRANE	PTC			TC PSNL4	43/PTC PSNE	451/PTC PS	1[46]/PTC P	SN(47)/PTC PS	N(481/PTC P	SN(49]/PTC
	FRANE	1888,11		00			0.03954	0.03255	0.03746	0.03534	0.03876
		1838.64		00			0.03984	0.03283	0.03770	0.83562	0.03906
	3	1659.69	-	00		.03837	0.04044	0.03331	0.03833	0.93619	0.03966
-	3 . 4	1493.4		00	•	.03842	0.04042	0.03340	0.03835	0.03616	0.03967
-		1339.6					0.04100	0.03386	0.03888	0.03569	0.04023
	• • • • • • • • • • • • • • • • • • •	1214.9		00		,n <b>39</b> 23	0.04126	0.03410	0.03912	0.03692	0.04046
	TUNNEL ST	ATIC PRESS	URE= 0.4	51 HEA	TER TUTAL P	RESSURE= 21	L00. HE	ATER TOTAL	TEMPERATURE=	70. AL	PHA= 0.02
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	05 SEPTEN	BÉR 1973		NSFC PLUME	TEC HOLOBY	IND TUNNEL TEST NOZ		LE ALABAMA Ation P ase		YEST 575	RUN 406/0
(					H	YEW8E047	IDF DATA	-neggees flu	RENNE T		++++++
	FRAME	PSA	PTC	SKINE 1	SKIH[2]		SKIN[4]		HODELISTING	FEEDER-PIPE	TCH
	1	0.41	1628.11	1 1598.6	94,5	92.3	88,4	151.7	144.8	696.6	482.5
	2	0.40	1642,85	1609.2	94.1	92.8	89.3	152.6	163.4	658.5	495.5
	3	0.49	1677.59	1639.7	94.1	92.8	89.7	152.2	218.5	632.5	505.9
	4	0.41	1702.85	1670.7	96.7	94,5	91.5	151.7	250.1	616.9	515.0
			1686.01	1655.0	95.8	94.1	92.8	151.7	277.4	604.3	517.6
		0.40_	1647.06	1614.4	98.0	94,9	94.1	148.3	301.3	596.5	520.2
		···		<del></del>							
<u>.</u>	FRAME	PTC	PSC	;	TC PSNI44	IJ/PTC PSN[4	51/PTC PSN	[46]/PTC PSI	11471/PTC PSN	[481/PTC PSN	[49]/PTC
	1	1623,98					.04031	3335	0.03887	0.83633	0.03971
		1648,64					.04019	0.03321	0.03790	0.03621	0.63958
(	3	1682.85					.03981	0.03293	0.03775	0.03589	0.03921
	~	1704.95					.03964	0.03280	0.03763	0.03573	0.03908
	5	1683.38			···		.04015	0.03320	8.03813	0.03615	0.03950
<del></del>		1647,59					.04021	0.03325	0.03 19	0,03621	0.03957
	<del></del>	1047121	<u> </u>	<u></u>		A	_ <del>-</del>		9		
<del></del>	THINNEL ST	ATIC PRESSU	IRE= 0.409	P HEAT	TER TOTAL PI	RESSUPE: 210	10. HEA	TER TOTAL TO	EMPERATURES (	500. ALPH	A= 0.02
	TOWNER DI										
			····								
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FRANÉ	PSA	PTC	SK[N[1]	SK(N(2)	TEMPERATU SKIN(3)	RE DATATED SKIN(4)	EGREES FAHREI SKIN[5] NO	NHEIT	EDER-PIPE	TCH
HARE	1.21	481.82	475.0	97.5	102.7	108.4	147.8	125.7	368.5	2 <b>2</b> 9.¤
2	1.21	477.08	471.3	96.2	101.4	186.7	153.0	138.9	352.0	232.4
<u>۔</u> ن	1.21	489.71	482.3	90.2	101.0	105.8	151.7	137.0	337.7	235.4
•	1.71	489.71	481.8	96.2	100.1	104.9	152.2	141.8	326.4	737.1
,	1.71	489.71	481.3	92.8	98.0	103.2	150.0	145.2	314.7	238.9
6	1.21	493.39	485.5	93.6	97.5	102.3	150.0	150.4	306.1	239.7

FR	PTC	TC P47/PTC	PORT-22	NO	PSH/PSA	NO	PSH/PSA	MO	PSM/PSA	NO	P5H/PSA	ND	PSH/PSA	NO	PSM/PSA	MO	PSM/PSA	NO	PSH/PSA
·	_	229.8 0.0330	1.22	5	0.84890	•	0.88686	11	0.95376	16	0.99390	23	0.95886	29	0.91844	34	J.82206	35	0.73141
		233.7 0.0334	1.22	•	<b>m.</b> 80149	7	0.98343	12	1.00919	17	0.91936	24	0.99963	30	0.96396	41	0.95631	36	0.93720
			1 22	3	1 - 46855	8	0.94229	13	1.81238	18	1.08346	25	0.98434	31	0.98307	42	3.82206	37	1.34049
		235.8 0.0326	1.45	•	2 56184	_	1.01875	14	0.97734	19	1.80664	26	0,95312	32	0.95631	39	0.93975	38	1.00473
	-	238.4 0.0324	1,62	-	2 53474	10	PAARO A	15	1.02384	26	1.01235	27	0.99645	33	e.95 <b>8</b> 22	40	2.01137	43	0.91999
		238.9 0.0326		1	2177070	10	4	• •					0.98434		*-				
6	493.9	240.2 0.0323	1,22							e è	1.01011	•							

WIND TUNNEL TEST CONDITIONS..... Q 10.289 PT 90.015 PS NODEL ATTITUDE...... ALPHA 0.00 BETA 0.00 AVERAGE MODEL/NOZZLE PARAMETERS.. PTC= 486.2 TC= 236.1 HEATER PARAMETERS... HEATER TOTAL PRESSURE= 600.

1.214 R/L 10.7 MACH 3.480 TEMP 99.

ROLL 9.0

PTC/PSA= 400.42 PSM(221/PSA= 1.848

HEATER TOTAL TEMPERATURE= 280.

			SX[N[1]	SKINIZI	TEMPERATU SKIK[3]	RE DATAD Skin(4)	EGREES FAHR Skinis) H	ENHEIT	DEG-PIPE	7CH
FRAME	PSA	PTC	24 [4111	SHIMEEI						
1	1.21	255.66	670.8	93.6	97.1	101.4	151.3	189.5	336.0	234.5
2	1.21	878.66	860.2	92.3	95.8	100.1	150.0	135.3	316.2	235.6
			940.0	92.8	94.9	96.8	152.6	142.2	305.0	235.7
3	1.21	879,71	869.2	72.0	,41,	2241				
4	1.21	897.61	879.2	91.0	94.1	98.4	150.0	148.5	292.2	238.5
•					4- 4	97.5	152.6	153.5	281.6	237.6
5	1.21	898.76	\$76.0	91.9	93.6	W/ 43	17610	2,013		
	1.21	904.97	898.8	90.6	92.8	97.1	147.8	158.7	274.8	238.4

FR	PTC	IC P47/PTC	PORT-22	NO	PSH/PSA	NO	PSH/PSA	NO	PSM/PSA	NO	PSH/PSA	MO	PSH/PSA	NU	PSR/PSA	NU	-2m/-3m	70	r JM/r JM	
•	487.1	235.0 0.0230	1.25	5	0.84987	6	0.88746	11	0.95372	16	9.99194	23	0.95818	29	0.98976	34	3.82188	35	0.73010	
	-	234,7 0.0232		4	0.00337	7	9.98482	12	1.00914	17	8.92156	24	1.00022	30	0.96327	41	1.24423	36	<b>0.</b> 93460	
	=	237.1 0.0233	1.25	3	1,47294	8	9.94161	13	1.01233	18	1,00405	25	0.98493	31	0.98493	42	3,82188	37	1.26653	
4		238.4 0.8229		2	2.57510	9	1.01870	14	0.97729	19	1.00787	26	0.95372	32	0.95881	39	1.22006	38	1.00405	
5		238.0 0.0231	1.25	1	2.58147	10	4.98748	15	1.02300	28	1.01424	27	8.99704	33	.96455	48	3.57533	43	1.28154	
		238.4 8.0228	1,26		-								0.98430							

MIND TUNNEL TEST CONDITIONS..... Q 10.290 PT 90.019 PS MODEL ATTITUDE...... ALPHA 8.02 BETA 8.00 AVERAGE MODEL/HOZZLE PARAMETERS... PTC= 889.3 TC= 237.3 HEATER PARAMETERS... HEATER TOTAL PRESSURE= 1100.

1.214 R/L 18.7 MACH 5.480 TEMP 99.7 ROLL 6.6 PTC/PSA= 732.35 PSM(22)/PSA= 1.0309 HEATER TOTAL TEMPERATURE= 250.

					RE DAYX	EGREES FAHRE	NHE1T		
PSA	PTC	SKINETI	SKINEST	SKIN[3]	SKIN(4)	SKINES) NO	DEL-STING FE	DER-PIPE	TCH
		1266.6	95.4	99.7	192.7	150.0	124.4	323.4	224.6
	•			98.8	161.9	148.3	133.1	298.3	225.0
1.21	1298.00	1804.	1.21-			440 1	148.8	280.1	224.1
1.21	1289.71	1263.9	94.5	97.5	191.0	140.3	140.0	20072	
	1292.87	1270.8	93.2	97.5	100.6	150.9	146.5	267.5	224.1
		1282.9	91.9	95.4	98.8	150.0	151.3	255.3	223.3
	•		90.6	95.4	98.4	150.0	155.6	249.7	223.7
	PSA 1.21 1.21 1.21 1.21 1.21 1.21	1.21 1290.76 1.21 1298.66 1.21 1289.71 1.21 1292.87 1.21 1310.24	1.21 1290.76 1266.6  1.21 1298.66 1269.7  1.21 1289.71 1263.9  1.21 1292.87 1270.8  1.21 1310.24 1282.9	1.21 1298.76 1266.6 95.4  1.21 1298.66 1269.7 94.1  1.21 1289.71 1263.9 94.5  1.21 1292.87 1270.8 93.2  1.21 1310.24 1282.9 91.9	PSA PTC SKINIII SKINIZI SKINIZI  1.21 1290.76 1266.6 95.4 99.7  1.21 1298.66 1269.7 94.1 98.8  1.21 1289.71 1263.9 94.5 97.5  1.21 1292.87 1270.8 93.2 97.5  1.21 1310.24 1282.9 91.9 95.4	PSA PTC SKINITI SKINIZI SKINIZI SKINIZI SKINIZI  1.21 1290.76 1266.6 95.4 99.7 182.7  1.21 1298.66 1269.7 94.1 98.8 181.9  1.21 1289.71 1263.9 94.5 97.5 181.0  1.21 1292.87 1270.8 93.2 97.5 180.6  1.21 1310.24 1282.9 91.9 95.4 98.8	PSA PTC SKIN(1) SKIN(2) SKIN(3) SKIN(4) SKIN(5) MC  1.21 1290.76 1266.6 95.4 99.7 102.7 150.0  1.21 1290.66 1269.7 94.1 98.8 101.9 148.3  1.21 1289.71 1263.9 94.5 97.5 101.0 148.3  1.21 1292.87 1270.8 93.2 97.5 100.6 150.9  1.21 1310.24 1282.9 91.9 95.4 98.8 150.0	1.21 1298.76 1266.6 95.4 99.7 182.7 150.0 124.4  1.21 1298.66 1269.7 94.1 98.8 181.9 148.3 133.1  1.21 1289.71 1263.9 94.5 97.5 181.0 148.3 148.8  1.21 1292.87 1270.8 93.2 97.5 180.6 150.9 146.5  1.21 1310.24 1282.9 91.9 95.4 98.8 150.0 151.3	PSA PTC SKIN(1) SKIN(2) SKIN(3) SKIN(4) SKIN(5) MODEL-STING FEEDER-FIFE  1.21 1290.76 1266.6 95.4 99.7 182.7 150.0 124.4 323.4  1.21 1298.66 1269.7 94.1 98.8 181.9 148.3 133.1 298.5  1.21 1289.71 1263.9 94.5 97.5 181.0 148.3 148.8 280.1  1.21 1292.87 1270.8 93.2 97.5 188.6 150.9 146.5 267.5  1.21 1310.24 1282.9 91.9 95.4 98.8 150.0 151.3 255.3

TC P47/PTC PORT-22 NO PSM/PSA NO PSM/PSA NO PSM/PSA NO PSM/PSA NO PSM/PSA NO PSM/PSA NO PSM/PSA FR PTC 5 0.85413 6 0.86980 11 0.95413 16 0.99426 23 0.96050 29 0.90764 34 3.82099 35 0.72547 1.34 1 1292.3 225.8 8.6192 4 8.88573 7 8.90589 12 1.88764 17 8.92356 24 1.00254 30 8.96178 41 1.49999 36 0.93511 2 1301.6 225.4 0.0191 3 1.47786 8 0.94148 13 1.81882 18 1.80573 25 0.98662 31 1.00381 42 3.82099 37 1.40636 3 1293.4 225.0 8.0193 2 2.58279 9 1.81846 14 0.97706 19 1.00891 26 0.95350 32 0.97388 39 1.43884 38 1.00>73 4 1292.3 224.1 8.0193 1 2.58215 10 6.98598 15 1.02483 20 1.01783 27 0.99808 33 0.97643 40 3.82099 43 1.42483 5 1313.9 223.7 8.8191 21 1.02866 28 0.98216 6 1327.6 225.7 0.0189 1,36

WIND TUNNEL TEST CONDITIONS..... 9 10.292 PT 90.040 PS 1.215 R/L 10.7 MACH 3.480 (EMP 99.8 MODEL ATTITUDE...... ALPHA 0.02 BETA 0.08 POLL 0.0 PTC/PSA= 10.73.29 PSM(221/PSA= 1.1081 AVERAGE MODEL/MOZZLE PARAMETERS... PTC= 1303.6 TC= 224.5 PTC/PSA= 1073.29 PSM(221/PSA= 1.1081 HEATER PARAMETERS.... HEATER TOTAL PRESSURE= 1606. HEATER TOTAL TEMPERATURE= 240.

FRAMF	PSA	PTC	SKIN(1)	SKINIS1	TEMPERATU SK [N{3}	SKIN(4)	EGREES FARRE SKIN(5) MO	NHEITEAGGAGG DEL-STING FEI	-DF4-bibE	TCH
	-	1466.55	1430.1	73.7	73.3	71.1	152.2	97.5	402.3	153.5
1	1.21_	•	1451.0	73.3	72.0	72.0	151.7	103.4	315.2	124.4
2.	1.71	1466.76			72.0	71.1	150.0	105.3	245.2	99.3
3	1.21	1487.61	1456.0	72.8		72.4	158.4	104.0	189.0	88.6
<b>.</b>	1.21	1486.55	1461.3	73.7	72.8	72.4	151.3	108.6	163.9	65.5
<u>.</u> 5	1.21	1491.42	1464,4	74.1	7 <u>2.4</u> _		a and Tari	95.4	165.6	56.4
6	1.22	1492.34	1466.0	73.7	<u> </u>	72.8	151.3	72.4	-	

PORT-22 NO PSM/PSA NO PSM/PSA NO PSM/PSA NO PSM/PSA NO PSM/PSA NO PSM/PSA NO PSM/PSA NO PSM/PSA 5 0.85684 6 0.89498 11 0.95558 16 0.99817 23 0.96250 29 0.91154 3411.83860 35 0.73808 4 0.68788 7 8.98963 12 1.81283 17 6.92365 24 1.08789 38 8.96258 41 1.65938 36 8.93957 2 1488.8 125.7 8.0182 3 1.47847 8 8.94467 13 1.01983 18 1.81418 25 0.99244 31 1.31795 4211.07738 37 1.21921 3 1489.7 101.0 8.0182 2 2.58494 9 1.82382 14 8.98898 19 1.82111 26 0.95550 32 8.84912 39 1.64982 38 1.01983 4 1484.4 81.9 9.0183 1.52 1 2.58382 10 8.99244 15 1.85194 26 1.88799 27 0.99945 33 8.97878 40 6.29990 45 1.65938 1.58 5 1493.9 6/.6 0.0182 21 1.08417 28 0.98034 1.63 6 1492.9 56.8 0.0182

MIND TUNNEL TEST CONDITIONS..... 9 10.291 ROLL MODEL ATTITUDE..... ALPHA HEATER TOTAL TEMPERATURES

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rrane.	PSA	PTC	SKIN(1)	SKIN(2)	TEMPERATU SKIN[3]	RE DAVASSO Skinia)	EGREES FAHRE SKINIST MO	NHEIT DEL-STING FE	EDER-PIPE	TCH
1	1.22	1702.87	1666.0	74.6	75.4	75,4	152.2	111.0	288.7	220.7
2	1.22	1696.55	1660.8	74.6	75.0	75.0	150.0	121.0	267.9	218.5
3	1.21	1671.29	1636.6	75.4	75.4	75.4	148.3	130.1	256.6	220.7
7	1.21	1635.39	1594.4	75.4	75.0	76,3	152.6	136.1	248.4	218.5
5	1.21	1567.88	1535.0	74.1	74,6	75,4	152.6	142.2	242.3	215.0
à	1.21	1519-71	1490,8	74.1	74,6	75.4	150.0	147.0	235.0	212.9

FR PTC TC P47/PTC PORT-22 NO PSM/PSA NO PSM/

WIND TUNNE' TEST CONDITIONS..... 0 10.294 PT 90.052 PS 1.215 R/L 10.7 MACH 3.480 TEMP 100.1 MODEL ATTITUDE................... ALPHA 0.00 BETA 8.68 ROLL 0.0 AVERAGE MODEL/NOZZLE PARAMETERS... PTC= 1636.3 TC= 218.5 PTC/PSA= 1347.04 PSM(22)/PSA= 1.1666 HEATER PARAMETERS..... HEATER TOTAL PRESSURE 2100. HEATER TOTAL TEMPERATURE 240.

					9					
FRAME	PSA	PTC	SKIN(1)	SKINI21	÷=YEMPERATU Skin(3)	SKIN(4)	EGREES FAHRE Skinisi Ho	DEL-STING FE	EDER-PIPE	TCH
1	1.21	1910.24	1872.9	114.5	121.4	130.1	148.3	144.4	210.3	85.4
2	1,21	1753.92	1716.7	113.6	120.1	128.8	152.6	136.1	158.2	67.6
3	1.21	1553.92	1525.8	112.3	117.9	127.5	148.3	126.2	123.1	57.2
4	1.21	1400.24	1374.4	111.0	116.2	124.9	152.2	116.6	94.5	49.4
- · · · <del>- · · · ·</del>	1.21	1264.45	1242.3	110-1	115.3	122.3	147.8	108.0	101.4	45.5
6	1.21	1153.39	1135.0	108.0	113.2	120.1	152.6	100.1	130.9	42.1

FR	PTC	TC P47/FIE	PORT-22	ND PSH/PSA	NO PSH/PSA N	D PSH/PSA	NO PSH/PSA	NO PSH	/PSA NO	PSH/PSA	NO PSH/PSA	NO PSH/PSA
	• -	86.7 0.0165		5 0.85864	6 0.89116 1	1 0.96314	16 1.00136	23 0.9	7078 29	0.94021	3411.89911	35 1.85303
		48.9 8.8171	1.85	4 0.80899	7 0.90517 1	2 1.01665	17 8.92174	24 1.0	<u>0</u> 773_30	. 9.96764	41 1.00233	36 0.91791
		50.5 0.8179		3 1.47911	8 0.94658 1	3 1.01856	18 1.81155	25 0.9	6862 31	1.66326	4210.15055	37 1.38738
		50.7 0.0188	_	2 2.57793	9 1.02174 1	4 0.98289	19 1.03130	26 0.9	5295 32	0.70197	39 1,67849	38 1.06824
		47,3 0,8196		1 2,58111	18 0.99117 1	5 1.02626	28 1.88835	27 0.9	9244 33	0.95359	40 5,76164	43 1.58803
•		43.8 0.0204		· · · · · ·			21 1.06570			-	<del>-</del>	

TEMP 101.8 MIND TUNNEL TEST CONDITIONS..... 0 10.291 PT 90.031 PS 1.214 R/L MODEL ATTITUDE..... ALPHA 0.02 WETA 0.00 ROLL 0.6 AVERAGE MODEL/NOZZLE PARAMETERS. PTC= 1507.3 TC= 59.3 PTC/PSA= 1241.10 HEATER TOTAL TEMPERATURE: 9. HEATER PARAMETERS...... HEATER TOTAL PRESSURE = 2100.

					TEMPERATU	RE DATAD	FNHETT					
FRAHE	PSA	PIC	SKIN[1]	SKIN[2]	SKIN[3]	SKINI41	SKIN[5] H	OBEL-STING	teevea-bibe	TCH		
1	5.07	1576.00	1544.4	85.0	66.7	87.6	152.6	132.7	<b>3</b> 30.3	277.0		
2	5.11	1603.89	1569.7	88.0	87.1	88.9	150.0	146.1	355.1	282.7		
3	5.11	1591.77	1560.2	88.4	88.4	89.7	148.3	158.2	317.5	286.6		
4.	5.09	1588.63	1551.8	86.3	87.6	90.2	150.0	167.3	315.2	267.4		
5	5.12	1531.79	1501.5	89.3	88.9	92.3	151.7	176.4	314.3	287.4		
6	5.09	1467.05	1436.8	89.3	90.6	93.6	152.6	182.9	311.7	286,6		

TO P47/PTC PORT-22 NO PSH/PSA NO PSH/PSA NO PSH/PSA NO PSH/PSA NO PSH/PSA NO PSH/PSA NO PSH/PSA 5 0.98743 6 0.87984 11 0.96631 16 0.92763 23 0.94052 29 0.90032 34 2.42943 35 0.97610 1 1577.1 277.4 0.0179 4 0.78882 7 0.95493 12 0.94356 17 0.92535 24 1.00499 30 0.97465 45 1.06415 36 1-15517 2 1507.1 282.7 0.0176 5.28 3 1.02471 8 0.99968 13 0.95190 18 2.10631 25 0.92535 31 1.04292 42 2.07597 37 2.14120 5,29 3 1593.4 287.4 0.0178 2 1.37058 0 \_.01485 14 0.95645 19 0.98148 26 0.89046 32 1.02320 39 1.04671 38 1.09525 4 1591.3 287.4 0.0177 5.28 1 1,43885 18 0,99968 15 0,97996 20 0,96479 27 0,95038 33 2,12376 40 1,61026 43 1,00651 5 1532.8 287.9 0.0180 21 1.02244 25 0.95342 6 1471.3 286.6 8.0184 5.24

WIND TUNNEL TEST CONDITIONS..... Q 7.744 PT 18.009 PS 5.100 R/L 5.3 MACH 1.473 TEMP 104.7 MODEL ATTITUDE.....ALPHA 0.00 BETA 0.00 ROLL 0.0 AVERAGE MODEL/NOZZLE PARAMETERS... PTC= 1552.1 ICM 284.9 PTC/PSA= 306.32 PSH(22)/PSA= 1.0319 HEATER PARAMETERS.... HEATER TOTAL PRESSURE= 2100. HEATER TOTAL TEMPERATURE= 310.

TEST 575	RUN	412/1
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MSFC TRISONIC WIR	D TUNNEL	HUNTSVILLE.	ALABAMA
PLUME TECHNOLOG	Y TEST.	MON-QUIESCENT	PHASE

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		•			TENPERATU	RE DATAD	EGREES FAHRE	NHETT		
FRAME	PSA	PTC	SKIM[1]	SKIN121	SKIN[3]	SKIN(4)	SKIN(5) HO	DFL-STING FE	EDER-PIPE	TCH
1	5,19	1637,58	1610.2	80.4	58.0	90.6	152.6	141.8	265.3	744.9
5	5,18	1567,58	1929.2	87.6	68.0	90.6	150.0	148.7	265.7	245.8
3	5,22	1507,58	1471.3	91,5	88.9	93,2	152.2	156.1	264.0	235.0
4	5.22	1444,95	1418.1	91.0	98.2	93,6	147.8	160.4	262.7	154.8
5	5.21	1380.74	1356.5	\$9.7	89,3	94-1	152.6	163.4	260.5	153.0
•	5.21	1334.42	1300.1	91,0	89.7	95,4	150.4	165.6	257,5	220.7

FR	PTC	TC P47/PTC	PORT-22 1	O PSH/PSA	NO PSH/PSA NO PSH/PSA	NO PSH/PSA I	O PSH/PSA	NO PSH/PSA	NO PSM/PSA NO PSM/PSA
1	1637.1	249.8 8.8175	5.30	5 0,87727	4 8,98184 11 0,95675	16 6.92333	23 0,94487	29 0.89458	34 2.79672 35 8.96418
		240,7 8,8178							41 1.04886 30 1.12612
		239.4 0.0181							42 2.70238 37 1.05406
		153.9 0.0165	The second secon						39 1.80881 38 1.07789
		140.9 0.0190	5,23	1 1.41433	18 8.99241 15 0.94338	20 1.00058	27 0.94858	33 1.01098	40 1.45221 43 1.00206
•	1334.9	220.7 8.0192	5,18			21 1.01246	26 n.93150		

		**			TEMPERATU	RE DATAD	EGREES FAH	RENHEIT		
FRAME	PSA	PTC	SKIN(1)	SKIHIZI	SKIN(3)	SKIN[4]	SKINISI	HODEL-STING	FEEDER-PIPE	TCH
1	5.20	1273.89	1249.7	118.8	124.0	127.5	148.3	163.4	249.7	241.5
2	5.18	1273.89	1254.4	116.2	122.7	125.3	148,3	166.0	252.7	244.1
3	5.20	1286.10	1265.5	116.6	121.4	126.2	151.7	169.9	255.8	245.5
4	5,18	1280.21	1259.7	116.6	119.7	124.0	152.2	173.0	257.1	247.1
5	5.18	1251.26	1223.9	114.0	118.8	122.3	150.0	174.7	257.9	247 - 5
٥	5.1 <b>8</b>	1218.10	1195.5	114.5	117.1	121.0	152.6	176.0	257.1	244.9

FR PTC TC P47/PTC PORT-22 NO PSM/PSA NO PSM/

HIND TUNNEL TEST CONDITIONS..... Q 7.745 PT 17.994 PS 5.1
HODEL ATTITUDE...... ALPHA 0.02 BETA 0.00 RULL
AVERAGE MODEL/NOZZLE PARAMETERS.. PTC= 1262.7 TC= 245.9 PTC/P
HEATER PARAMETERS.... HEATER TOTAL PRESSURE= 1600. HEA

5.187 R/L 5.3 HACH 1.461 TEMP 105.3 RULL 0.0 PTC/PSA= 243.42 PSH(221/PSA= 0.9921 HEATER TOTAL TEMPERATURE= 280.

TEST 575 H	UN 414/	0
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MSFC TRISONIC WIND	TUNNEL	HUNTSVILLE,	
PLUME TECHNOLOGY	TEST	NON-QUIESCENT	PHASE

FRAME		PTC	5K1H(1)	SKINI2)	TEMPERATU	RE DATAD Skin(4)	EGREES FAHRE SKIN(5) MO	NHEIT DEL-STING FE	EDER-PIPE	TCH
1	P\$ <u>A</u> 5.19	892 <u>.</u> 84	872.8	198.4	112.7	116.2	150.4	150.9	244.5	55ë•t
2	5,16	896,53	878.1	111.0	113.2	115.0	152.6	154.3	245.4	230.2
<u>.</u>	5,18	904,95	887,1	187,5	110.6	114.5	151.7	156.5	246.2	251.9
4	5.17	917.85	899.7	198,8	110.1	113.6	148,3	159.1	247.5	234.5
5_	5.17	913.89	897.1	167.1	104.6	113.6	151.7	161.3	248.0	235.4
•	5,15	914.10	897 1	196.7	108.4	113.2	148.3	163.4	245.8	235.8

FR PTC TC P47/PTC PORT-22 NO PSH/PSA NO PSH/

WIND TUNNEL TEST CONDITIONS..... Q 7.747 PT 18.002 PS 5.171 R/L 5.3 MACH 1.463 TEMP 195.1 MODEL ATTITUDE...... ALPHA 0.02 BETA 0.00 ROLL 0.8 AVERAGE MODEL/MOZZLE PARAMETERS.. PTC= 908.4 TC= 233.1 PTC/PSA= 175.67 PSM(22)/PSA= 0.9759 HEATER PARAMETERS.... HEATER TOTAL PRESSURE= 1100. HEATER TOTAL TEMPERATURE= 270.

. '	TEMPERATURE DATADEGREES FAHRENHEIT											
	FRAME	PSA	PTC	SKIN[1]	SKIN[2]	Skin(3)	SKIN[4]	SKIN[5] HO	DEL-STING FE	TCH		
	1	5.28	461.26	453.9_	110-1	115.8	119.7	152.2	140.0	231.1	205.1	
A CAR	2	5.27	463.89	453.9	110.6	115.8	118.8	151.7	143.1	232.4	208.5	
REE CONTRACTOR	3	5.29	465.47	457.6	108.4	112.7	117.1	151.7	142.6	231.5	210.3	
SE.	4	5,30	470.74	461.3	108.0	112.3	116.7	148.5	144.4	232.4	213,3	
D 10	5	5.31	472.31	462,3	109.3	111.4	114.5	151.3	147.0	234,1	214.6	
TO SECTION OF THE PERSON OF TH	6	5.32	473.89	464.9	107.1	111.0	116.6	153.0	147.4	233.2	215.n	
AUTHOR BASE	-				* 1 144 1							

TO P47/PIC PORT-22 NO PSH/PSA NO PSM/PSA NO PSM/PSA NO PSM/PSA NO PSM/PSA NO PSM/PSA NO PSM/PSA NO PSM/PSA 5.11 5 0.87645 6 6.91025 11 0.93655 16 0.92852 23 0.93947 29 0.94893 34 2.75778 35 0.98404 1 458-1 205.9 0.0341 2 463.9 209.4 p.0336 5.13 4 0.79117 7 0.92925 12 0.94093 17 0.92632 24 1.06230 36 0.99134 41 0.74804 36 1.12722 3 465.9 Pit.3 p.633/ 5.10 - 5 1,02767 - 8 1,02933 13 0,95993 16 0,97162 25 0,91756 31 1,01107 42 2,31789 3/ 1,04248 4 470.2 213.7 ... 0333 5.10 -2 1.39241 - 9 1.02568 14 0.92559 19 J.96650 26 r.58854 32 0.99426 34 0.71447 38 1.05271 5 472.8 215.0 0.0331 5.09 - 1 1.44793 in 0.96477 is n.9387\* 20 1.01637 27 0.93363 33 1.011n7 40 c.76414 43 0.72396 6 472.3 210.3 0.0333 5.09 21 0.99938 28 0.94751

WIND TUNNEL TEST CONDITIONS..... Q 7.752 PT 17.998 PS 5.295 R/L 5.3 MACH 1.446 TIMP 104.4 MODEL ATTITUDE..... ALPHA 0.00 BETA 0.00 ROLL 0.0 AVERAGE HODEL/NOZZLE PARAMETERS.. PTC= 466.9 TC= 211.8 PTC/PSA= 88.16 FSH[22]/P5k= 0.4641 HEATER PARAMETERS..... HEATER TOTAL PRESSURE: 600. HEATER TOTAL TEMPERATURE: 260.

FRAME	<b>PSA</b>	etc	SK[N(1)	SKINIZI	TEMPERATU SKIN(3)	RE DATAE Skin(4)	EGREES FAHRE Skin(5) Ho	NHEIT	EDER-PIPE	тсн
	7.41	480.21	469.2	91.0	91.0	94.5	150.4	117.5	244.1	197.3
. <u>1</u> 2	7.41	479.68	471.8	89.7	91.5	95.8	152.6	119.2	240.2	198.6
3	7.41	487.85	478.1	91.0	91.0	95.4	152.2	122.7	238.0	298.3
4	7.41	489.68	480.2	90.6	90.6	96.2	151.3	125.7	235.8	202.0
5	7.41	486,53	478,6	90.6	91.5	97.1	150.0	127.9	234.1	203.3
6	7.41	493.37	482.3	93.2	94,1	98.0	150.4	131.8	234.1	285.1

TC P47/PTC PORT-22 NO PSH/PSA NO PSH/PSA NO PSH/PSA NO PSH/PSA NO PSH/PSA NO PSH/PSA NO PSH/PSA 5 6.98080 6 8.99449 11 8.97284 16 1.08337 23 0.92141 29 1.04617 34 1.95557 35 1.15163 1 488.7 198.1 9.8328 4 0.77993 7 8.97465 12 0.94839 17 1.85348 24 1.00806 38 1.01642 41 0.68074 36 1.00754 2 479.2 199.8 8.8330 3 0.95690 8 0.98718 13 0.95968 18 1.01694 25 0.92245 31 0.99345 42 1.53376 37 1.02842 3 486.0 260.7 0.0327 2 1.30093 9 8.98823 14 1.00702 19 1.01485 26 0.99554 32 0.99919 39 0.66456 38 0.93550 4 489.7 202.5 0.4325 1 1.34896 18 8.96839 15 1.80441 20 1.80598 27 1.62164 33 8.99136 48 0.76163 43 8.68388 6.75 5 483.9 201.8 0.0329 21 0.98092 28 1.02842 6.77 6 496.8 285.5 8.8321

WIND TUNNEL TEST CONDITIONS..... Q 7,482 PT 17.998 PS MODEL ATTITUDE..... ALPHA 0.02 BETA 0.00 POLL AVERAGE MODEL/HOZZLE PARAMETERS.. PTC= 485.9 TC= 201.6 HEATER PARAMETERS..... HEATER TOTAL PRESSURE: 600. HEATER TOTAL TEMPERATURE 750.

1.201 TEMP 184.8 7,409 R/L 0.0 PSM(22)/PSA= 0.9130 PTC/PSA= 65.58

## MSFC TRISONIC WIND TUNNEL HUNTSVILLE, ALARAMA PLUNE TECHNOLOGY TEST...NON-QUIESCENT PHASE

TEST 575 RUN 417/0

					TEMPERATU	RE DATAD	EGREES FAHRE	NHETT		TCH
FRAME	PSA	PIC	SKIN[1]	SKIN[2]	SKIN[3]	SKIN[4]	SK[N[5] HO	DFL-STING FE	-95"-"1"5	1011
1	7.41	904.95	881.8	103.2	105.3	108.0	151.3	129.2	235.8	208.5
2	7.41	901.79	881.8	102.3	106.2	107.5	152.6	131.3	233.2	, 12.0
3	7.41	919.68	899.2	102.3	105.3	107.5	147.8	136.1	234.1	215.9
4	7.42	917.05	904.0	180.6	103.6	106.7	148.3	148.5	234.5	211.5
5	7.41	923.37	904.4	101.9	104.0	186.7	140.3	143.5	235.0	220.2
6	7.41	928.63	911.3	102.5	104.0	107.1	152.6	146.5	235.0	221.1

TO P47/PTC PORT-22 NO PSM/PSA NO PSM/PSA NO PSM/PSA NO PSM/PSA NO PSM/PSA NO PSM/PSA NO PSM/PSA NO PSM/PSA PIC FR 5 0.89865 6 0.99624 11 0.96806 16 1.00303 23 0.92109 29 1.04373 34 1.96117 35 1.14602 908.1 209.4 0.0227 6.83 4 0.76923 7 0.97485 12 0.96597 17 1.05000 24 1.00146 39 1.01712 41 0.80941 36 1.00877 6.83 2 899.7 212.0 0.0229 3 8.95971 8 0.98424 13 0.94040 18 1.01921 25 8.92475 31 0.99937 42 1.50037 37 1.02547 6.83 3 917.6 216.3 U.0226 2 1.30310 9 0.98633 14 1.80616 19 1.81503 26 0.99468 32 0.99572 39 6.80159 38 0.93675 6.83 4 912.8 218.9 0.0228 1 1.35111 10 0.97015 15 1.08511 20 1.00668 27 1.02129 35 0.98998 40 0.91222 43 0.81724 6.84 5 922.8 22.,5 0.0726 21 0.98163 28 1.03016 6.84 6 979.2 227.8 0.0226

WIND TUNNEL LEST CONDITIONS..... 0 7.463 FT 18.000 PS MODEL ATTITUE...... ALPHA 0.02 BETA 0.08 AVERAGE MODEL/MOZZES PARAMETERS., PTC= 91% 0 TC= 216.8 HEATER PARAMETERS... HEATER FOTAL PRESSURE= 1186.

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		<u> </u>			TEMPERATU	RE DATAB	EGREES FAH	RENHETT		
FRAME	PSA	PTC	SKIN(1)	SKINEZI	2KIN[3]	SKIN(4)	\$x1N(5)	HODEL-STING	FEEDER-PIPE	TCH
1	7,41	1298.10	1274.4	106,2	109.7	112.3	151.3	134.8	238.0	217.6
2	7.41	1303.69	1283.9	185.8	106.8	111.0	150.0	140.0	236.7	221.1
3	7.41	1303,37	1276.0	184.0	107.1	110.6	152.6	144.8	237.1	223,7
4	7.42	1311.79	1281.3	104.0	108.0	111.0	152.6	147.8	238.0	226.7
5	7.42	1328,63	1297.2	104,5	107.1	110.6	148,3	153.0	239.7	225.9
	7.41	1321,79	1291.3	104.5	105,8	110.1	148.3	156.5	240.2	529.8

FΩ	PTC	TC P47/PTC	PORT-22 NO	PSH/PSA	NO PSM/PSA	NO PSH/PSA	NO PSM/PSA NO	PSH/PSA NO PSH/PSA	NO PSH/PSA NO PSH/PSA
1	1297.6	218.5 0.0192	6.99 5	0.89798	6 1.00286	11 0.96738	16 1-00547 23	0.92146 29 1.04251	34 1,96189 35 1.14478
s	1302,3	222,0 0.0192	6,98	0.77360	7 0.98616	12 0,96738	17 1.05191_24	1,00181 30 1.01642	41 0.98842 36 1.00808
3	1362.8	224.1 0.0192	6,99 3	0.95799	8 9.99190	13 0.93711	18 1.02060 25	0.92303 31 1.00547	42 1.46985 37 1.02582
4	1313.9	220.7 9.0192	7,00 2	1.30164	9 0.98929	14 1.00547	19 1.01747 26	0.99399 32 0.99294	39 0,89433 38 0.94651
5	1320,1	229,3 6,0190	7.00 1	1,35245	18 0.97729	15 1,00338	28 1.88964 27	1.01983 33 8,99834	40 1,84217 43 8,90737
6	1331.8	230.4 6,8190	7.01				21 0.98460 29	1.02634	

WIND TUNNEL TEST CONDITIONS..... 0 7.485 PT 18.004 PS 7.413 R/L 5.4 MACH 1.201 TEMP 103.8 MODEL ATTITUDE...... ALPHA 0.02 BETA 0.00 ROLL 0.0 AVERAGE MODEL/NOZZLE PARAMETERS.. PTC= 1512.6 TC= 225.2 PTC/PSA= 177.09 PSH(22)/PSA= 0.9436 HEATER PARAMETERS.... HEATER TOTAL PRESSURE= 1500. HEATER TOTAL TEMPERATURE= 260.

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RUN 419/6

PLUME TECHNOLOGY TEST...MON-QUIESCENT PHASE

					TEHPERATU	RE DAYAD	EGREES FAR	RENHETT		
FRAME	PSA	PTC	SKIN[1]	SKIN[2]	SKIN[3]	SKINE41	SKIN[5]	HODEL-STING FEE	P-PIPE	TCH
1	7.41	1689.48	1656.0	111.9	116.2	117.5	150.0	147.8	240.2	728.5
2	7,41	1701.79	1673,4	113.2	115,3	117.9	152.6	153.9	241.0	230.2
3	7,41	1652.84	1619,2	111.4	113.6	116.2	150.0	158.2	242.3	231.5
4	7.41	1592.84	1569.7	111.0	113.2	116.2	152.2	168.8	241.5	228.5
5	7,39	1541.26	1512.8	108.8	112,3	114.9	150.0	163.9	239.7	225.0
6	7.39	1484.42	1452.3	109.7	111.0	114.9	148.7	165.2	236.7	222.8

FR PTC TC P47/PTC PORT-22 NO PSH/PSA NO PSH/PSA NO PSH/PSA NO PSH/PSA NO PSH/PSA NO PSH/PSA NO PSH/PSA NO PSH/PSA 5 0.89479 6 1.88508 11 0.96849 14 1.80664 23 0.92354 29 1.04375 34 1.96572 35 1.14358 1 1692.3 229.3 8.0173 7.25 4 0.77249 7 0.98268 12 0.96981 17 1.85577 24 1.00089 30 1.02876 41 0.99462 36 1.01239 2 1693.4 231.5 0.0172 7.26 3 0.95699 8 0.98678 13 0.93922 18 1.02441 25 0.92406 31 1.01605 42 1.44934 37 1.02650 7.23 3 1661,3 231.9 0.0174 2 1.30299 9 0.98940 14 1.80351 19 1.01710 26 0.99305 32 0.98835 39 2.95908 38 0.96535 7,20 4 1594.9 229.8 0.0178 1 1.34794 10 8.97581 15 1.00194 20 1.01135 27 1.01919 33 0.99844 40 1.17964 43 0.95751 5 1541.8 227.2 0.0179 7.14 21 0.98678 28 1.02076 7.10 6 1484.9 223.7 8.0182

7.488 PT 18.004 PS WIND TUNNEL TEST CONDITIONS..... Q MODEL ATTITUDE..... ALPHA 0.02 BETA 0.00 TC= 228.9 AVERAGE HODEL/NOZZLE PARAMETERS.. PTC= 1611.4 HEATER PARAMETERS..... HEATER TOTAL PRESSURE= 2100.

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TFMP 103.3 7.401 ROLL 0.0 PSH(22)/PSA= 0:0722 PTC/PSA= 217.74 HEATER TOTAL TEMPERATURE: 260.

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			SK[N(1)	SKIN(21	==TEMPERATU SKIN(3)	RE BATA[ Skin(4)	EGREES FAHRE	MHEIT DEL-STING FE	DER-PIPE	TCH
FRAME	PSA	PTC	3474171	GH LIVE .		• •	_		077 .	223.7
•	10.58	1664.42	1633.4	113.2	115.3	116.2	151.7	145.2	237.1	2501.
•	-	1700.21	1669.7	110.6	114,5	114.9	152.6	148.7	236.5	225.9
2	10.57	1,44.51	440,11			<del>-</del> - · · · ·		4	237.6	227.6
3	10.58	1483.37	1643.4	111.0	113.2	<b>_114.9</b>	152.2	153.9	237.0	_
		1631.79	1681.8	189.7	111.9	113.6	150.4	157.4_	237.1	227.2
4	10.59	1031.14	7007						014 B	224.1
5	10.59	1573.37	1547.6	110.6	112.3	113.6	152.6	160.0	236.3	56411
	10.59	1519.68	1491.8	198.8	111.0	113.2	151.3	162.6	234.1	221.1

TC P47/PTC PORT-22 NO PSH/PSA NO PSH/PSA NO PSH/PSA NO PSH/PSA NO PSH/PSA NO PSH/PSA NO PSH/PSA NO PSH/PSA 10.58 5 0.99887 6 0.98498 11 0.95903 16 0.98937 23 0.96123 29 1.03359 34 1.37825 35 1.04931 1 1664,4 225.8 8.8175 4 0.95538 7 8.96488 12 0.96561 17 1.03359 24 0.96781 38 1.01459 41 1.88399 36 1.84456 2 1694.9 227.6 8.8172 10.58 3 0.88374 8 8.99193 13 8.97548 18 1.61166 25 0.95319 31 1.62117 42 1.61624 37 1.83359 3 1690.2 229.3 0.0172 18,58 4 1635.5 225.8 8.8175 10.53 2 1.09178 9 8.98389 14 0.97987 19 1.81130 26 0.97146 32 1.80289 39 0.98498 38 1.01041 1 1,15274 10 8.96927 15 8.99229 26 1.00728 27 0.99924 33 1.00545 46 1.07818 43 0.99156 18.48 5 1571.8 225.0 0.0178 21 6.99924 26 1.09216 6 1519.7 222.8 8.8188 10.41

HIND TUNNEL TEST CONDITIONS..... 0 6.063 PT 17.094 PS 10.583 R/L ROLL 0.02 BETA - F. 6T HODEL ATTITUDE..... ALPHA PSH1221/PSA= 0.9946 PTC/PSA= 153.96 AVERAGE HODEL/HOZZLE PARAMETERS.. PTC= 1629.4 TC= 226.2 HEATEN TOTAL TEMPERATURES 260. MEATER PARAMETERS..... MEATER TOTAL PRESSURES 2100.

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					TEMPERATU	RE DATAD	EGREES FAHR	ENHEIT		**************************************
FRAME	PSA	PTC	SKIH[1]	SKINIZI	akimi3}	5K[H[4]	SKIN(5) N	ODEL-STING FE	FC K-MINE	TCH
1	10.56	1275.47	1257.1	111.9	114.9	115.8	147.8	144.4	235.8	219.8
2	10.60	1291.79	1262.6	111.4	114.5	115.8	150.0	148.3	235.8	. 22 . 4
3	10.56	1306.80	1274.9	110.4	112.7	114-9	147.8	152.2	235.4	2:4.5
4	10.56	1322.84	1295.5	110.6	112.3	114.5	147.8	155.2	236.5	221.7
5	10.56	1334.42	1302.3	189.3	111.4	114.0	148.3	157.8	236.7	226,3
6	10.56	1338.63	1313.4	108.6	119.6	114.0	153.0	160.0	522.9	226.1

FR PTC IC P47/PTC PORT-22 NO PSM/PSA NO PSM/

WIND TUNNEL TEST CONDITIONS..... Q 6.082 PT 18.007 PS 10.567 R/L 5.1 MACH 0.907 TEMP 102.6 MODEL ATTITUDE..... ALPHA 0.02 BETA 0.00 ROLL 0.0 AVERAGE MODEL/NOZZLE PARAMETERS.. PTC= 1312.7 TC= 225.1 PTC/PSA= 124.22 PSH[22]/PSA= 0.>627 HEATER PARAMETERS..... HEATER TOTAL PRESSURE= 1600. HEATER TOTAL TEMPERATURE= 250.

FRAME	PSA	PTC	SK[N[1]	SKIN(2)	TEMPERATU SKIN[3]	RE DATAD Skin(4)	EGREES FAI SKIN[5]	MRENHETT	FEEDER-PIPE	TCH
1	10.62	888.10	874.4	111.0	113,2	114.5	148.3	136.6	238.0	211.1
<b>3</b>	10.69	880.16	870.7	110.1	112.3	114.0	148,7	140.5	236.3	214.6
3	10.59	901.26	000.1	110.1	111.9	313.6	150.4	143.9	. 235.8	216.8
4	10.50	908.10	687.1	108,4	<u> 110.6</u>	112.7	152.6	146.1	_ 234.1	217.6
5	10,60	908.63	891.8	187.5	109.7	111.9	158.4	148.3	234.1	218.5
•	10,59	984,95	887.1	109.3	110.1	112.7	152.2	152.2	234.1	219,4

FR PTC TC P47/PTC PORT-22 NO PSN/PSA NO PSN/

				・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・	ME MAIVE-	EGREES FAHRE	344E11		
PSA	PTC	SKIN[1]	SKIN[2]	2K14(2)	SKIM(4)	SKINIST NO	ODFL-STING FEE	EDER-PIPE	TCH
10.64	477.58	470.2	108.8	111.9	114.0	151.7	132.2	263.8	217.4
	476.53	467.1	108.0	111.4	112.3	151.7	135.3	254.9	215.5
_	475.47	468.1	108.8	110.1	111.4	147.8	137.9	26,.8	218.9
-	477.05	468.6	108.4	116.2	111.9	158.2	140.9	260.5	721.5
1		469.7	107.1	109.3	111.0	150.9	142.6	257.5	222.4
10.66	482.31	475.5	107.1	108.4	119.6	151.3	144.8	256.2	223.7
	10.64 10.63 10.64 10.65	10.64 477.58 10.63 476.53 10.64 475.47 10.65 477.05 10.66 478.10	10.64     477.58     470.2       10.63     476.53     467.1       10.64     475.47     468.1       10.65     477.05     468.6       10.66     478.10     469.7	10.64     477.58     470.2     108.8       10.63     476.53     467.1     108.0       10.64     475.47     468.1     108.8       10.65     477.05     468.6     108.4       10.66     478.10     469.7     107.1	10.64     477.58     470.2     108.8     111.9       10.63     476.53     467.1     108.0     111.4       10.64     475.47     468.1     108.8     110.1       10.65     477.05     468.6     108.4     116.2       10.66     478.10     469.7     107.1     109.3	10.64     477.58     470.2     108.8     111.9     114.0       10.63     476.53     467.1     108.0     111.4     112.3       10.64     475.47     468.1     108.8     110.1     111.4       10.65     477.05     468.6     108.4     116.2     111.9       10.66     478.10     469.7     107.1     109.3     111.0	10.64     477.58     470.2     108.8     111.9     114.0     151.7       10.63     476.53     467.1     108.0     111.4     112.3     151.7       10.64     475.47     468.1     108.8     110.1     111.4     147.8       10.65     477.05     468.6     108.4     116.2     111.9     150.7       10.66     478.10     469.7     107.1     109.3     111.0     150.9	10.64     477.58     470.2     108.8     111.9     114.0     151.7     132.2       10.63     476.53     467.1     108.0     111.4     112.3     151.7     135.3       10.64     475.47     468.1     108.8     110.1     111.4     147.8     137.9       10.65     477.05     468.6     108.4     116.2     111.9     156.3     140.9       10.66     478.10     469.7     107.1     109.3     111.0     150.9     142.6	10.64     477.58     470.2     108.8     111.9     114.0     151.7     132.2     261.8       10.63     476.53     467.1     108.0     111.4     112.3     151.7     135.3     254.9       10.64     475.47     468.1     108.8     110.1     111.4     147.8     137.9     26.8       10.65     477.05     468.6     108.4     116.2     111.9     150.7     140.9     260.5       10.66     478.10     469.7     107.1     109.3     111.0     150.9     142.6     257.5

PTC TO P47/PTC PORT-22 NO PSH/PSA NO PSH/PSA NO PSH/PSA NO PSH/PSA NO PSH/PSA NO PSH/PSA NO PSH/PSA 5 0,99906 6 8,98417 11 0,95692 16 C 3/363 23 n,98055 29 1,00960 34 1,30527 .. 1 476.5 213.3 8.6330 4 0.95365 7 8.96419 12 0.96092 17 1.81505 24 0.96600 30 0.98889 41 0.78617 36 1.02958 2 476.0 215.9 0.0331 3 0.88753 8 0.99834 13 0.96891 18 0.98780 25 0.94966 31 0.98308 42 0.98817 37 1.00515 3 473.9 218.9 6.6332 2 1.06867 9 0.98272 14 0.97836 19 0.98163 26 0.96273 32 0.96491 39 0.96692 36 0.89516 4 477.1 222.0 8.8331 9.20 1 1.14874 10 0.96855 15 0.98235 20 0.97006 27 0.98926 33 0.94421 40 0.78763 43 0.80761 9.21 5 478.1 222.8 0.0331 21 0.94495 28 0.99034 9.21 488.7 224.6 0.8330

WIND TUNNEL TEST CONDITIONS..... Q 6.030 PT 18.000 PS MODEL ATTITUDE...... ALPHA 0.02 BETA 4.00 AVERAGE MODEL/NOZZLE PARAMETERS.. PTC= 477.1 TC= 219.6 HEATER PARAMETERS.... HEXTER TOTAL PRESSURE= 600.

10.647 R/L 5.1 MACH 0.900 TEMP 102.2 ROLL 0.0 PTC/PSA= 44.81 PSH[22]/PSA= 0.8638 HEATER TOTAL TEMPERATURE= 260.

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FRAME	PSA	PTC	SK [M[1]	2KIN(S)	SKIN[3]	SKIN(4)		RENHEIT MODEL-STING	FEEDER-PIPE	TCH
	18.57	1880.74	979.7	101.4	101.4	102.3	147.8	104.5	119.7	61.5
2	10,50	1884.42	983.9	99.7	101.4	101.9	146.7	101.8	99.3	71.5
_ 3	10,57	1928,63	1005.6	101.4	101.4	182.3	151.3	99.3	84.1	64.2
4	10.56	1824,42	1004,4	100.1	106.6	100.6	147.8	94.9	69.8	56.4
5	20.59	1929.16	1089.7	101.0	101.0	100.6	150.9	91.9	59.6	50.7
6	10,60	1044,42	1626.6	98.8	99.7	99.7	152,6	87.1	50.3	46,0

FR PTC TC P47/PTC PORT-22 NO PSN/PSA NO PSN/

MIND TUNNEL TEST CONDITIONS..... Q 6.869 PT 18.088 PS 18.581 R/L 5.1 MACH 8.985 TEMP 181.8 MODEL ATTITUDE......ALPHA 2.02 BETA 8.80 ROLL 0.8 AVERAGE MODEL/NOZZLE PARAMETERS.. PTC= 1821.5 TC= 63.3 PTC/PSA= 96.55 PSM(22)/PSA= 0.9348 MEATER PARAMETERS..... MEATER TOTAL PRESSURE= 1180. MEATER TOTAL TEMPERATURE= 8.

					TEMPERATU	RE DATA	EGREES FAH	RENHETT		
FRAME	PSA	PTC	SKĮŅ(1)	SKINIZI	SKIN(3)	SKIN[4]		MODEL-STING FF		1C#
_1	7.37	983.37	966.5	91.0	90.6	90.2	150.4	88.6	63.7	62.9
, <b>2</b>	7.38	990.74	970.2	91.0	89.7	89.7	147.8	85.4	57.2	57.2
3	7.39	995.47	974.9	91.0	89.7	89.7	148.3	A3.7	51.2	52.5
<b></b>	7.38	1002.84	981.8	90.6	90.2	89.7	150.4	81.1	46.0	48.1
. 5	7.39	1900.21	981.8	89.7	90.2	89.7	147.8	78.5	40.8	44.2
6	7.38	1013.89	993.4	91.0	90. <u>\$</u>	89.3	151.3	77.2	37.3	41.2

PTC TO P47/PTC PORT-22 NO PSM/PSA NO PSM/PSA NO PSM/PSA NO PSM/PSA NO PSM/PSA NO PSM/PSA NO PSM/PSA NO PSM/PSA 983,4 64.2 0.0219 5\_0.89916 6 1.00291 11 0.96339 16 1.00763 23 0.93060 29 1.04274 34 1.95290 35 1.14387 990.2 59.8 8.8219 6.88 4 0.76188 7 8.98405 12 0.96990 17 1.04745 24 0.99767 30 1.82335 41 0.85620 36 1.00501 53.8 0.0219 3 8.95942 8 0.99453 13 0.94056 18 1.02754 25 0.92379 31 1.03226 42 1.33774 37 1.02911 4 1902.8 49.4 0.0217 6.89 2 1.30263 9 0.99925 14 0.99558 19 1.02230 26 n.99715 32 0.98353 39 0.84781 38 0.93794 5 1000.7 45.1 0.0218 6.89 1.34560 10 8.97671 15 1.00134 20 1.01759 27 1.02282 33 0.98615 40 0.95471 43 0.86510 5 1013.4 42.5 0.0216 6.91 21 0.98981 28 1.02544

WIND TUNNEL TEST CONDITIONS..... G 7.493 PT 18.004 PS 7.382 R/L 5.5 MACH 1.204 TEMP 101.4 MODEL ATTITUDE...... ALPHA 0.02 BETA 0.08 ROLL 0.0 AVERAGE MODEL/MOZZLE PARAMETERS.. PTC= 997.6 TC= 52.3 PTC/PSA= 135.14 PSM[22]/PSA= 0.933 HEATER PARAMETERS..... HEATER TOTAL PRESSURE= 1100. HEATER TOTAL TEMPERATURE= 8.

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					TENPERATU	RE DATAD	EGREES FAI	RENHË (T-#-+		
FRAME	PSA	PTC	SKIHL1)	SKIP(2)	SKIN[2]	SKIN[4]	SKINIST	MODEL-STING	FEEDER-PIPE	TCH
1	5.06	1851.80	1030.71	186.2	108.0	106.7	147.8	118.4	148.7	90.2
š	5.07	1057.59	1836.5	105.3	107.5	106.2	151.3	114.9	120.5	77.2
3_	5.08	1877.59	1859.7	184.5	105.8	184.9	147.5	110-1	98.8	60.8
4	5.06	1976.01	1859.2	105.8	105.8	104.9	151.3	106.2	82.4	59.p
5	5.09	1869.69	1852.8	103.2	104.5	183.2	147.8	100.1	67.2	52.5
6	5.08i	1875.46	1956.5	104.0	104.0	102.3	151.7	96.2	59. ú	47.7

FR PTC	TC P47/PTC	PORT-22	NO PSH/PSA	NO PSM/PSA	NO I	PSH/P\$A	NO	PSH/PSA	NO	PSM/PSA	NO	PSH/PSA	HO	PSM/PSA	NO	PSN/PSA
1 1050.7	92.3 0.0212	5,43	5 0.95606	6 6,88897	11	0.96750	16	0.92633	23	8,94387	26	1.14819	34	2.85083	35	0.97055
2 1057,6	78.9 0.8212	5.05	4 0.77004	7 0.95683	12	0.7.387	17	0.90727	24	0.97894	30	0.95979	41	0.95530	36	1.16649
3 1079.7	68.9 9.9210	5,84	3 0,99037	8 0.99037	13	0.94463	18	9.93929	25	0.92328	31	1.11312	42	1.63995	37	1.05975
4 1077.1	60.7 0.0211	5,04	2 1.33422	9 0.99952	14	0,93472	19	9.96750	26	0.87996	32	1.01096	39	0.95301	3 d	1.07119
5 1071.3	53.8 0.0211	5.05	1 1,35785	10 0.98275	15	0.98685	20	8.98846	27	0.92938	33	0.98351	40	1,23282	43	0.96216
6 1076.5	<9.0 0.0210	5.07					21	1.00943	28	0.94768						

MIND TUNNEL TEST CONDITIONS..... Q 7.741 FF 18.007 PS 5.073 R/L 5.3 HACH 1.477 TEMP 101.1 MODEL ATTITUDE.......... ALPHA 0.02 BETA 0.08 ROLL 0.0 AVERAGE MODEL/MOZZLE PARAMETERS.. PTC= 1068.8 TC= 67.3 PTC/PSA= 210.67 PSMI22!/PSA= 0.9948 HEATER PARAMETERS..... HEATER TOTAL PRESSURE= 1100. HEATER TOTAL TEMPERATURE= 0.

					TEMPERATU	RE DATAD	EGREES FAH	RENHEST		
FRANE	PSA	PTC	SKIN[1]	SK18[2]	SKIN[3]	SKIN[4]	SKIN(5)	MODEL-STING	FEEDER-PIPE	TCH
1	1.21	1837.61	1618.1	80.2	81,9	85.8	150.4	108.0	JA1.9	161.7
2	1.21	1942.34	1021.3	80.2	81.5	84.5	_ 143.1	112.7	318.2	137.4
3	1.21	1953.39	1028,1	79.3	81.1	85.0	150.0	113.6	204.2	118.4
4	1.21	1047.61	1829.2	7,8,9	80.6	84.1	148.7	113.2	127.0	100.6
5	1.21	1055.50	1934.4	79.8	79.8	84.5	148.7	110.6	143.1	76.7
, 6	1.21	1067,61	1846.6	79.3	79.8	85.0	151.3	108.0	160.0	72.4

FR PTC IC P47/PTC PORT-22 NO PSM/PSA NO PSM/PSA NO PSM/PSA NO PSM/PSA NO PSM/PSA NO PSM/PSA NO PSM/PSA NO PSM/PSA 1 1037.6 161.7 8.0214 5 **8.85134** 6 **8.88838** 11 0.95394 16 0.99472 23 0.95984 29 0.96997 34 3.82276 35 0.77645 1,28 2 1841.8 141.8 8.0214 1.30 4 8.80291 7 0.90487 12 1.01129 17 8.92080 24 1.00428 39 0.96286 41 1.37005 36 0.93482 3 1048.7 119.7 0.0213 1,31 3 1.47201 8 0.94119 13 1.51511 18 1.80810 25 0.98771 31 1.16231 42 3.82276 37 1.21775 4 1047.6 101.9 0.0213 1.33 2 2.57124 9 1.02821 14 0.97752 19 1.0:129 26 0.95203 32 0.97114 39 1.36750 38 0.96923 5 1056.0 8/.6 0.0212 1 2.57633 10 0.98699 15 1.02658 26 1.05207 27 0.99600 33 8.96668 40 3.82276 43 1.35858 5 1068.1 74.6 0.0210 1,56 21 1.06163 28 0.97752

WIND TUNNEL TEST CONDITIONS..... Q 10.287 PT 89.998 PS 1.214 R/L 10.7 MACH 3.480 TEMP 99.7 MODEL ATTITUDE...... ALPHA 0.02 BETA 0.00 ROLL 0.0 AVERAGE MODEL/NOZZLE PARAMETERS... PTC= 1050.0 TC= 114.5 PTC/PSA= 864.89 /SK(22)/PSA= 1.0881 HEATER PARAMETERS.... HEATER TOTAL PRESSURE= 1100. HEATER TOTAL TEMPERATURE= 0.

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					TEMPERATU		EGREES FAHRE	NHEIT	,	TCH
FRAME	PSA	PTC	SKIN(1)	SKIN(2)	SKIN[3]	SKINIAI	SKIN(5) NO	DEL-STING FE	ENEMBERIC	10.
1	1.21	997.61	982,9	143.5	154.3	166.0	147.8	183.4	473.0	715.5
2	1.21	1805.50	988.1	140.0	151.7	163.4	150.4	184.2	397.1	167.7
3	1.21	1002.34	984.6	139.2	149.1	160.8	148.3	183.4	137.4	162.4
4	1.21	1010.24	992.3	137.0	146.1	158.7	148.7	179.0	142.6	138.7
5	1.21	1014.45	994.0	134.8	143.9	156.1	150.4	173.0	145.1	117.5
6	1.21	1015.50	996.6	133.1	141.8	153.9	150.0	165.6	130.6	141.4

TC P47/PTC PORT-22 ND PSH/PSA NO PSH/PSA NO PSH/PSA NO PSH/PSA NO PSH/PSA NO PSH/PSA NO PSH/PSA NO PSH/PSA 5 0.59878 6 0.88734 11 0.96569 16 1.80009 23 0.96505 29 0.91282 34 8.53258 35 U.71535 1 997.6 210.3 8.8218 1.31 4 0.888€? 7 0.98326 12 1.61263 17 0.92619 24 1.08900 30 0.96123 41 1.35999 36 8.93065 2 1606.6 168.6 9.8217 1.32 3 1.47465 8 0.95422 13 1.02238 18 1.00773 25 0.99435 31 1.38292 42 7.10252 37 1.98170 3 1864,4 163.9 8.0218 1.33 2 2.57347 9 1.82365 14 0.99180 19 1.01856 26 0.95804 32 0.84211 39 1.35362 38 0.98098 4 1011.3 140.5 0.0216 1,35 1 2,57793 10 0.99817 15 1.05448 20 1.07334 27 1.00072 33 0.97333 40 4.11819 43 1.32368 5 1014.4 119.7 0.0216 1.36 21 1.07589 28 8.98225 1.38 6 1015.0 102.7 0.0216

HIND TUNNEL TEST CONDITIONS..... 9 10.291 PT 90.031 PS 1.214 R/L 10.6 TFMP 101.6 HODEL ATTITUDE..... ALPHA 0.02 BETA 0.00 ROLL AVERAGE HODEL/HOZZLE PARAMETERS.. PTC= 1808.2 TC= 155.3 PIC/PSA= 830.19 PSM1221/PSA= 1.1031 HEATER TOTAL TEMPERATURES 0. MEATER PARAMETERS..... HEATER TOTAL PRESSURER 1100.

RAME	PSA	PTC	SKINLLI	SKIN(2)	SKIN[3]	SKIN(4)	EUREES FAMRE Skin(5) mo	DEL-STING FE	EDER-PIPE	TÇH
1	1.21	452.87	447.6	119.7	127.9	137.4	151.3	169.9	552.3	342.
2	1.21	451.29	444.4	117.5	125,7	134.8	150.4	179.0	532.3	351.
3	1.21	454.97	449.7	115.3	124.0	132.7	148.3	187.7	517.2	353.
4	1.21	457,08	449.7	112.7	122.7	131.8	152.6	196.0	504.6	362.
5	1.21	460,24	453.9	113.2	123.6	130.9	152.2	203.3	494.2	365.
6	1.21	460.24	453.9	112.3	128.1	129.2	152.2	211.1	485.1	369.

FR	PTC	TC P47/PTG	PORT-22	NO	PSH/PSA	NO	PSH/PSA	MO	PSH/PSA	NO	PSM/PSA	NO	PSH/PSA	NO	PSH/PSA	NO	PSM/PSA	ND	PSH/PSA
1	451.3	342.9 8.8343	1.22	5	0.85362	•		11	0.96255	16	9.99884	23	0.96382	29	8.91477	341	1.99693	35	g.73322
2		351.1 0.0344	1,22	4	0.89839	7	8,90394	12	1,01415	17	0.93516	24	1.00650	36	0.96701	41	0.95236	36	89856.0
		358.1 8.0343	1.22	3	1.48236		0.94662	13	1.01861	16	1.61996	25	0.98994	31	0,98994	42	9.78473	37	1.58237
		362.8 0.0340	1.23												0.96000				
- · · · · ·		366.3 0.0336	1,23												8.96864				
, A	72	369.8 0.0339	1.23	7.									0.98994						

				· · · · · · · · · · · · · · · · · · ·	TENPERATU	RE DATAD	EGREES FAHRE	NHEIT		
FRAME	PSA	etc	SKIN[1]	2K1M[5]	SKIN[3]	SKIN[4]		DEL-STING FE		TCH
1	1.21	905.50	889.2	94,9	96.7	97.5	153.0	146.5	510.7	348.1
5	1.21	924.76	902.9	93.6	95,4	97.1	152.2	163.0	486.0	355.0
3	1.21	926.03	909.2	93,6	94,5	96.7	150.4	177.7	466.5	360.2
4	1.21	921.29	908.1	94.5	94.1	97,1	150.4	191.2	453,9	362.8
5	1.21	938.13	925.5	91.9	93.2	97.1	153.5	282.5	441.7	365.4
6	1.21	950.24	936.0	92.8	93.2	97.1	151.7	213.3	433.>	368.1

FR	PTC	TC P47/PTC	PORT-22	NO	PSH/PSA	NO	PSH/PSA	MO	PSH/PSA	ND	PSH/PSA	NO	PSH/PSA	NO	PSM/PSA	NO PSH/PSA	NO	PSH/PSA
1	903.9	348.5 0.0228	1.25	5	0.62623	6	0.88615	11	0.95367	16	0.99572	23	0.96068	29	0.91226	3411.87155	35	g.73325
2	919,7	355.0 0.0225	1,25	4	0.80779	7	0.90207	12	1.00846	17	0,93775	24	1.00400	38	0,96323	41 1,25819	36	0.93711
3	925.0	36u.2 8.0225	1.26	3	1.48625	8	0.93966	13	1.01292	18	1.00719	25	0.98807	31	0.98680	4210.25661	37	1.26137
4	918.1	363,3 0.0228	1.26	2	2.59919	9	1.01610	14	0.97597	1.9	1.01165	26	0.95304	32	0,95495	39 1,24236	38	1.07056
5	954,4	365,9 0.0225	1,27	1	2,60381	10	0.98616	15	1.02502	28	1.01674	27	0.99890	33	0.95750	40 3,69811	43	1,22124
6	948.1	368.1 0.0223	1.27							21	1.01993	28	0.98744					

WIND TUNNEL TEST CONDITIONS..... Q 10.290 PT 90.023 PS 1.214 R/L 10.6 NACH 3.480 TFMP 101.7 MODEL ATTITUBE...... ALPHA 0.08 BETA 0.00 ROLL 0.0 AVERAGE MODEL/NOZZLE PARAMETERS... PTC# 924.9 TC# 360.2 PTC/PSA# 761.64 PSN[22]/PSA# 1.0380 HEATER PARAMETERS.... HEATER TOTAL PRESSURE# 1108.

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PTC IC P47/PIC PORT-22 NO PSM/PSA NO PSM/PSA NO PSM/PSA NO PSM/PSA NO PSM/PSA NO PSM/PSA NO PSM/PSA NO PSM/PSA 1 1229.7 355.8 8.0196 1.33 5 0.85967 4 0.89217 11 0.90482 16 1.00178 23 0.96609 29 0.91575 3411.92956 35 0.72639 2 1214.4 357.6 8.8198 1.33 4 0.81442 7 0.98428 12 1.81389 17 0.93990 24 1.00751 30 0.96545 41 1.44659 36 0.93678 3 1221.6 360.2 0.0198 1.34 3 1.49438 8 8.94697 13 1.01898 18 1.01878 25 0.99094 31 0.99894 4210.86533 37 1.70404 4 1241.3 364.1 0.0195 1.34 2 2.60832 9 1.01835 14 0.96521 19 1.01516 26 0.95781 32 0.95844 39 1.39879 36 1.03237 5 1233.4 365.9 0.8197 1.35 1 2.61214 10 0.99094 15 1.02918 20 1.01962 27 1.00178 33 0.96099 40 4.79659 43 1.38159 6 1238.1 366.3 0.0198 1.35 21 1.02281 28 0.98967

WIND TUNNEL TEST CONDITIONS..... 0 10.287 PT 89.994 PS 1.214 R/L 10.7 MACH 99.9 ROLL MODEL ATTITUDE..... ALPHA BETA 0.02 0.0 TC# 361.5 AVERAGE MODEL/NOZZLE PARAMETERS.. PTC= 1229.8 PTC/PSA= 1013.06 PSM{22}/PSA# 1.1037 HEATER PARAMETERS..... HEATER TOTAL PRESSURE 1660. HEATER TOTAL TEMPERATURE: 425.

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		••			TEMPERATU	RE DATAD	EGREES FAHR	RENHETT		тсн
FRAME	PSA	PIC	SKIN(1)	SKIN[2]	2K1N{3}	SKIN(4)	\$KI4(5) P	CODEL-STING FE	FDF4-Lile	
1	1.21	1668.66	1631.3	81.1	81.9	82.4	147.8	139.2	476.9	101.1
2	1.71	1684.97	1644.4	80.2	81.5	ê1.9	150.9	162.1	450.6	565.4
3	1.21	1483.48	1652.9	81.1	81.5	81.5	148.3	182.1	434.8	370.2
4	1.21	1652.34	1 <b>6</b> 26.0	81.1	81.5	62.8	147.8	199.0	425.3	371.5
5	1.21	1606.03	1570.8	81.9	81.9	83.7	152.2	213.7	419.2	169.8
6	1.21	1520.76	1495.4	81.5	81.9	84.1	148.3	225.0	413.1	368.9

ŁB	PTC	1C P47/PTC	PORT-22	NO	PSH/PSA	ĦĐ	PSM/PSA	<b>N</b> O	PSH/PSA	NO	PSH/PSA	NQ	PSH/PSA	NO	PSK/PSA	NO PSR/PSA	Nü	PSM/PSA
1	1568.7	361.1 0.0174	1.40	5	0.86489	6	0.88958	11	0.95521	16	9,99663	23	n.96605	58	0.91188	3411.84798	35	0.72900
		365.4 8.8173		4	0.82076	7	0.90615	12	1.01193	17	0,94438	24	1.00810	30	0,96541	41 1.68230	36	0.93928
		370.7 0.0173														4211.31089		
		371.5 0.0176		2	2.63241	9	1-01766	14	n,97879	19	1.01694	26	0.95776	32	u.95967	39 1.56441	36	1.04634
5	1608.1	370.2 0.0177	1.42	1	2.62986	10	0,98707	15	1.02913	20	1.02540	27	1.00428	33	0.96272	40 5.35595	43	1.55740
	1527 1	369.R 0.0182	1.41							21	1.02595	28	0.99154					

WING TUNNEL TEST CONDITIONS..... 0 16.287 PT 89.998 PS 1.214 R/L 10.7 MACH 3.480 TEMP 100.3 MODEL ATTITUDE................... ALPHA 0.02 BETA 0.00 ROLL 8.0 AVERAGE MODEL/NOZZLE PARAMETERS... PTC= 1639.0 TC= 368.1 PTC/PSA= 1350.09 PSMI22;/PSA= 1.1670 HEATER PARAMETERS.............. HEATER TOTAL PRESSURE= 2100. HEATER TOTAL TEMPERATURE= 430.

FRANF	PSA	PTC +	SKIN(1)	SKIN[2]	SKIN[3]	PE DATAD Skin(4)	EGREES FAH	RENHEIT==== Model-Sting	FEEDER-PIPE	TCH
1	5.04	1609.69	1584.4	104.5	106.2	106.2	152 2	186.0	467.5	393.7
<del>.</del> 2	5.09	1637.59	1608.6	104.9	105,8	186.2	150.9	202.5	471.7	398.0
3	5.14	1634.43	1607.6	102.3	184.5	196.7	152.6	215.0	459.5	400.6
4	5,17	1624.43	1598.7	102.3	104.0	167.1	148.3	227.2	452.1	401.4
	5.16	1585.48	1552.3	184.9	184.5	108,4	152.6	237.1	446,9	399,3
6	5.16	1533.38	1503.4	103.2	183.2	109.3	148.7	245.4	441.7	397.5

TO P47/PTC PORT-22 NO PSH/PSA NO PSH/PSA NO PSH/PSA NO PSH/PSA NO PSH/PSA NO PSH/PSA NO PSH/PSA FR PTC 5 D.84287 6 D.83679 11 D.92574 16 D.92499 23 D.88654 29 D.9332d 34 2.79834 35 D.94911 1 1007.1 395.2 0.0178 5.13 4 0.77346 7 0.93827 12 0.93781 17 0.91217 24 0.95741 36 0.94911 41 1.05993 36 1.14889 5.22 2 1439.2 398.4 8.4175 3 1-01847 8 8-98605 13 0-94685 18 8-93554 25 0-91745 31 0-96796 42 1-78816 37 1-06446 3 1635.5 401.4 0.0176 2 1.38489 9 1.00415 14 0.95891 19 0.97098 26 0.88956 32 1.02224 39 1.05390 38 1.10441 5,30 4 1626.0 401.9 0.8176 1 1.41199 18 1.48838 15 0.95364 28 8.96871 27 0.94308 33 1.01671 48 1.67132 45 1.85842 5.28 5 1587.6 400.1 0.0177 21 1.02902 28 0.94836 5,24 6 1535.5 398.0 0.0180

WIND TUNNEL TEST CONDITIONS..... Q 7.744 PT 16.002 PS MODEL ATTITUDE...... ALPMA 0.02 BETA 0.00 AVERAGE HODEL/NOZZLE PARAMETERS.. PTC= 1605.1 TC= 398.6 HEATER PARAMETERS... HEATER TOTAL PRESSURE= 2025.

5.131 R/L 5.3 MACH 1.469 TEMP 99.7 POLL 0.0 PIC/PSA= 312.84 PSM(22)/PSA= 1.0226 HEATER TOTAL TEMPERATURE= 485.

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		**			TEMPERATI	RE MATA	EGREES FAHRE	NHE   T		
FRAME	PSA	PTC	5K[N[1]	5K[N(2)	SKIN[3]	SK78(4)		DEE-STING FE		TCH
1	5.12	1679.74	1638.6	11,7.5	122.5	122.3	148.7	194.2	470.8	395,4
2	5.11	1700.74	1667.1	114,5	120.5	121.0	148.7	208.5	458.7	399.7
S	5.18	1676.01	1646.0	114.0	118.8	120.5	150.0	222.0	450.8	401.4
4	5.09	1649.69	1618.1	113.2	117.9	120.1	150.4	232.4	446.1	399.7
5	5.12	1578.11	1543.4	113.2	117.1	119.2	150.4	241.9	443.5	398,4
6	5,12	1529,69	1502.3	114.5	116.2	119.2	152.0	248.8	438.7	395.8

FR PIC TC P47/PTC PORT-22 NO PSM/PSA NO PSM/PSA NO PSM/PSA NO PSM/PSA NO P\$ //PSA NO PSM/PSA NO PSM/PSA NO PSM/PSA 1 1471.3 395.4 8.0175 5 0.98569 6 0.91898 11 0.95065 16 0.96470 23 0.93519 29 1.00253 34 2.80937 35 0.92006 2 1699.7 399.7 6.6173 5.81 4 0.81262 7 0.92536 12 0.90644 17 8.97080 24 0.97000 30 1.87744 41 1.17051 36 1.17353 3 1073.4 401.4 0.0175 5.80 3 1.04188 8 1.08556 13 0.96546 18 1.01691 25 0.94579 31 1.09409 42 1.83407 37 1.13873 5.78 2 1.40355 9 1.00460 14 0.99194 19 1.04869 26 0.89812 32 1.08576 39 1.15116 38 1.21288 4 1050.2 400.1 8.0174 5 1585.0 390.6 8.6178 5,76 1 1,4111 10 0,98211 15 0,98135 20 1,10695 27 0,95184 35 1,10544 40 1,67972 43 1,12889 6 1531.3 396.7 0.0179 5.72 21 1.12587 28 1.02826

HIND TUNNEL TEST CONDITIONS..... Q 7.743 PT 18.004 PS 5.112 R/L 5.3 HAGH 1.471 TEHP 98.6 NODEL ATTITUDE...... ALPHA 0.00 BETA 0.00 NOLL 8.0 NOLL 8.0 AVERACS NODEL/NOZZLE PARAMETERS... PTG= 1635.1 TC= 398.7 PTC/PSA= 319.85 PSH[22]/PSA= 1.1300 HEATER PARAMETERS.... HEATER TOTAL TEMPERATURE= 460.

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FRAME	PSA	PTC	SK[N[1]	SKIN(2)	TEMPERATUI Skin(5)	RE DATAB Skini41	EGREES FAHR Skin(5) H	FNHEIT ODEL-STING	FEEDER-PIPE	TCH
1	5.17	1290.74	1270.7	124.0	129.2	133.5	152.6	195-1	496.8	388.9
2	5.16	1297.06	1270.2	120.1	127.0	132.2	151.3	209.0	478.2	392.8
3	5.16	1343.90	1318.1	120.1	125.5	130.5	148.3	219.8	466.5	397.1
4	5.16	1342.32	1315.5	118.4	123.1	129.6	149.1	228.5	456.5	397.1
•	5,18	1314.95	1288.6	117.1	122,3	129.2	152.2	237.6	450.8	397.5
6	.5.17	1340.74	1318.1	117.1	121.4	128.8	150.4	244.5	444.8	398.4

TO PATIFIC PORT-22 NO PSM/PSA NO PSM/PSA NO PSM/PSA NO PSM/PSA NO PSM/PSA NO PSM/PSA NO PSM/PSA NO PSM/PSA 5 8.87733 6 8.96128 11 8.97165 16 8.91101 23 8.95368 29 1.16777 34 2.79143 35 8.96266 1 1269.7 390.2 0.0195 4 0.79049 7 0.92973 12 0.93122 17 0.92374 24 1.08533 30 0.98437 41 6.99560 36 1.13109 2 1307.1 392.8 0.0193 5,14 3 1.02629 8 0.98362 13 0.94994 18 0.93871 25 0.92374 31 1.02180 42 1.74268 37 1.06148 5.16 3 1348.7 398.0 6.6189 2 1.36764 9 0.99336 14 n.95742 19 8.96716 26 0.88182 32 1.00384 39 0.98063 38 1.08468 5.16 4 1345.0 397.1 0.0169 1 1.48058 16 0.99186 15 0.94395 20 0.96566 27 0.93796 33 1.00608 48 1.43127 43 0.99485 5.16 5 1322.8 397.5 0.0193 21 1-01656 28 0-93871 5.16 6 1340.7 399.3 0.0191

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		-		******	TENPERATU	RE DATA	EGREES FAH	RFNHETT		
FRAME	PSA	PTC	SKIN[1]	SKIN[2]	SKIN[3]	SKIN[4]	SKIN[5]	HODEL-STING	FFEDER-PIPE	TÇH
1 1	5.15	903,38	889.7	134.0	144.8	152.2	152.2	218.1	626.0	433.1
ş	5.17	918.64	901.5	130.5	140,9	150.0	151.7	528.9	592.0	433,9
3	5.17	924,74	907.6	127.0	138.7	147.4	152.2	240.6	566.2	453.1
4	5.15	933,90	916.5	126.6	≤36.6	145.7	151.3	250.1	544.1	430,5
5	5,17	936,01	918.1	126.6	134,4	144.8	147.8	257,5	526.3	429.2
6	5.15	927.59	911.3	126.6	133.1	143.1	148.7	263.1	511.5	426.6

FR	PTC	IC P47/PTC	PORT-22	NO	PSM/PSA	NO	PSH/PSA	NO	PSH/PSA	NO	PSH/PSA	NO	PSH/PSA	HO	PSH/PSA	NO	PSH/PSA	NO	PSM/PSA
1	983.4	433.9 0.0229	5.03	5	0.87668	6	0.89466	11	0,94585	16	8,91265	23	0.95086	29	9.89766	34	2.79713	3>	0.96135
5	917.6	433,9 9.0228	5,02	4	0.89325	7	0.93213	12	9.93662	17	0.92388	24	1.01455	30	6,99956	41	0,89841	36	1.13219
3	918.1	433,1 0.0228	5,02	3	1.03028	8	1.00256	13	0,95610	18	0.95011	25	0.92988	31	1.02654	42	1.70016	37	1.06475
4	932.8	430.5 0.0225	5,02	2	1,37196	9	0.99507	14	0,94936	19	0.96959	26	0.89017	32	1.60706	39	0.88567	38	1.08573
5	937.6	426.7 8.8225	5,02	1	1,48269	10	0.99357	15	0.94037	20	0.98158	27	0.93662	33	1.01395	40	1.12820	43	0.69766
6	929.2	420 0.0227	5.02		•	•	*-			21	1.02354	28	0.94057		-				

WIND TUNNEL TEST CONDITIONS..... U 7.746 PT 18.002 PS 5.162 R/L 5.3 MACH 1.464 TEMP 180.7 MODEL ATTITUDE......ALPHA 0.02 BETA 0.08 ROLL 0.8 AVERAGE MODEL/MOZZLE PARAMETERS., PTC+ 923.1 1C+ 431.2 PTC/PSA= 178.82 HEATER PARAMETERS..... HEATER TOTAL PRESSURE: 1100. HEATER TOTAL TEMPERATURES 460.

FRANE	PSA	PTC	SK[N[1]	SKIN(2)	TEMPERATU	IRE DATA[ SKIM(4)	EGREES FAMI SKIN(5)	RENHEIT	DE4 -PIPE	TCH
1	5.26	494.43	487.6	136.1	149.1	157.8	150.4	222.8	701.0	445.6
2	5,27	502.32	493.9	134.4	146.1	155.6	150-4	231.9	673.7	448.2
3	5.29	504.53	499.7	133.1	143.5	153.0	151.7	238.9	650.3	448.7
•	5.27	512.32	508.7	129.2	141.3	151.7	148.3	246.7	629.0	449.1
5	5.26	511.80	503.4	129.2	138.3	148.7	151.7	252.3	609.9	447.8
6	5.29	516.53	507.6	128.8	136.1	148.3	152.6	257.5	593.5	446.1

FR	PTC	TC P47/PTC	PORT-22	NO I	PSH/PSA	NO PSH/PSA	MO	PSH/PSA	NO	PSH/PSA	NO	PSH/PSA	NO	PSM/PSA	MO	PSH/PSA	NO	PSM/PSA
1		446.1 0.0324				6 0,89897												
2		448.2 9.8319				7 0,92250												
3		444.2 0.0319				8 1.03983												
4		449.1 8.0315	5.06		· · · · · · · · · · · · · · · · · · ·	9 0.99804	_											
		447.8 8.8317	5.06			10 0.99290												
-		445.6 0.0314	5,04				_		21	0.99877	28	0.94597						

WIND TUNNEL TEST CONDITIONS..... 0 7.793 PT 18.002 PS 5.275 R/L 5.3 HACH 1.449 TEMP 100.4 HODEL ATTITUDE......ALPHA 0.02 BETA 0.00 ROLL 0.8 AVERAGE MODEL/NOZZLE PARAMETERS.. PTC= 507.4 TC= 447.5 PTC/PSA= 96.20 PSH[22]/PSA= 0.9566 HEATER PARAMETERS.... HEATER TOTAL PRESSURE= 600. HEATER TOTAL TEMPERATURE= 480.

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					TERPERATU	RE DAYAD	EGREES FAI	(DENNETTerr		
FRANE	PSA	PTC	SKIN[1]	2KIMISI	SKINEST	SKIN[4]		MODEL-STING	FEEDER-PIPE	TCH
1	4.97	473,38	466,5	98.8	100.6	101,4	151.3	137.4	577,4	340.3
. 2	4.96	480.22	475.0	98.0	99.3	100.6	150.4	146.5	553.6	347.2
<u>\$</u>	_4.99	480,74	473.9	96.2	98.4	100.6	152.2	156.9	535.4	353.3
4	5.08	490.74	482.8	97.1	98.4	100.6	151.3	166.5	525.0	357.6
<u>,</u> 5	4,97	491.80	484.4	98.0	98.8	100.1	152.2	173.8	505.0	360.2
6	5,00	508.74	495,4	96.2	97.5	99.7	150.9	180.3	492.9	362.4

FR	PTC	TC	P47/PTC	PORT-22	NO	PSH/PSA	NO	PSH/PSA	NO	PSM/PSA	NO	PSH/PSA	NO	PSH/PSA	NB	PSH/PSA	NO	PSM/PSA	NQ	PSM/PSA
<u>.</u> 1	473.4	340.	7 0.0334	5.25	5	0.91860	6	0.90713	11	8.94671	16	0.97853	23	0.92809	29	1.11743	54	2.87117	35	0.94981
2	478.6	347.7	7 0.0330	5.26	4	0.88626	_ 7	0.96844	12	0.94050	17	1.00103	24	0.96223	30	1.08328	41	0.81867	36	1.21210
3	480,7	353.7	<b>6.033</b> n	5,25	_ <b>3</b>	1.00569	8	0.98939	13	0.88851	18	0.98396	25	0.91412	31	1.11277	42	1.90972	37	1.08484
<u></u> 4	490.2	357.6	0.0325	5,25	2	1.38670	9	1.01267	14	0.92343	19	1.03362	26	0.88075	32	1.11518	39	0.80238	38	1.20899
5	492.8	360.7	0.0325	5,25	. 1	1,39523	10	0.98861	15	1,01267	20	1.04216	27	0.93429	33	1.10889	40	0,87299	43	8.52488
6	501.8	363.3	0.8320	5.23						· _	21	1.08949	28	0.95835						

WIND TUNNEL TEST CONUITIONS..... 0 7.728 PT 17.996 PS 4,985 R/L 5.3 MACH 1.488 TEHP 98.8 MODEL ATTITUDE..... ALPHA 0.02 BETA 0.00 ROLL 0.0 AVERAGE HODEL/MOZZLE PARAMETERS.. PTC= 486.1 TC= 354.0 PTC/PSA= 97.52 PSM[22]/PSA= 1.8529 HEATER PARAMETERS.... HEATER TOTAL PRESSURE: 680. HEATER TOTAL TEMPERATURE= 440.

TEST	575	RUN	448/0	
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16	SEPTÉMBER	1073	-	-	 MSFC TRI	SONIC	HEND	TUNNEL	HUNTSVILLE.	AL ABAHA
, ,	SET TERRET	17.0			PLUME	TECHNO	LOSY	TEST	. MON-QUIESCENT	PHASE

FRAME	PSA_	PTC	SKINLLI	SKINIZI	SKIN[3]	SKIN[4]	SK1N(5) NO	DEL-STING FF	EDER-PIPE	TCH
1	7.38	394.42	387.1	123.6	129.6	132.7	150.4	163.4	532.3	327.
2 ,	7.38	391.26	384.4	122.3	127,5	130.9	147.8	169.9	515.4	333.4
3 {	7,38	392.84	367.1	121.0	125.7	130.1	150.9	176-9	502.4	338.6
4	7.38	394.95	388.6	120.5	124.9	128.8	151.7	182.1	491.2	342.9
 5	7.38	396.53	389.7	118.8	122.7	127.9	151.3	186.4	481.2	345.9
 6	7.39	399.16	392.8	117.9	121.4	127.0	152.2	189.9	471.2	348.1

FR PTC TC P47/PTC PORT-22 NO PSN/PSA NO PSN/

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FRAME	PSA	PTC	SK[N(1]	SKIN(2)				RENHETT		
		710	9v14(1)	SWIMIST	SKIN[3]	SKIN[4]	PKIMIDI	MODEL-STING	FEDER-PIPE	TCH
1	7.41	513.38	505.5	118.8	121.8	124.4	152.6	190.3	531.9	368.
2	7,41	519.16	511.3	116.2	120.5	123.6	148,3	187.7	515.4	364.
<b>5</b>	_7.39	516,53	598.1	116.2	119.7	122.7	147,8	194.2	501.1	367.
4	7,42	521.60	511.6	115.8	118.8	122,7	151.3	200.7	491.2	368.
<b>5</b>	7,42	925,48	518.1	113.6	117.1	121.8	158,4	205.1	477.7	369.
6 _	7,39	526.44	521.3	113.6	116.2	122.7	148.3	210.7	469.5	370.7

FR	PTC	TC P4	7/PTC	PORT-22	NO	PSH/PSA	NO	PSH/PSA	NO	P\$M/PSA	NO	PSH/PSA	HO	PSH/PSA	NO	PŚH/PSA	ND	PSH/PSA	NO	PSH/PSA
1	513.4	361.1 0	.0315	7.31	5	0.89717	6	0.97812	11	1.00527	16	1.88360	23	1.07003	29	1.13896	34	1.94527	35	1.15463
2 ,	519.2	365.4 8	. #312	7,31	4	0.80369	7	1,04914	12	0.99376	17	1.12851	24	1.06324	38	1,00674	41	0.77132	36	1.12799
3	516.0	360.8 0	.0315	7.51	3	0.95044	8	1.11912	13	1.00997	18	1.10972	25	6.98438	31	1.08830	42	1.34628	37	1.10502
4	>22.3	368.9 0	.0312	7.31	2	1.30920	9	1.09666	14	1.00632	19	1.11076	26	1.04078	32	1.09718	39	0.75304	38	1.02877
5	524,4	37u.2 8	.0312	7.30	1	1.39798	10	1.04705	15	1.08883	20	1.11233	27	1.08413	33	1.08569	40	0.79116	43	a.7755g
6	527.6	376.2 g	.0311	7.51_					_		21	1.09302	28	1.09405						

WIND TUNNEL TEST CONDITIONS..... 0 7.486 PT 18.004 PS 7.407 R/L 5.5 MACH 1.202 TEMP 99.7 MODEL ATTITUDE...... ALPHA 0.02 BETA 0.00 ROLL 0.0 AVERAGE MODEL/NOZZLE PARAMETERS... PTG= 520.5 TC= 367.1 PTC/PSA= 70.27 PSM(221/PSA= 0.9870 HEATER PARAMETERS.... HEATER TOTAL PRESSURE= 600. HEATER TOTAL TEMPERATURE= 440.

					TERPERATU	RE DATAD	EGREES FAHRE	NHE!T		
FRAME	PSA	PTC	5K[N[1]	2K1M[5]	SKIN[3]	SKINE41		DEL-STING FE		TÇH
1	7,42	876.00	858.6	124.9	130.9	135,3	152.6	196.0	584.2	371.1
2	7.42	886.53	872.8	122.7	128,3	133.1	148.3	197.3	487.5	378,5
3	7,43	899,16	883.9	122.7	127.0	133.1	151.3	207.2	476.9	384.1
4	7,42	919.16	903.9	120.5	124.4	131.8	150.9	215.5	466.5	386.7
5	7,43	929.68	914.4	118.8	123.1	131.8	152.6	223.3	459.5	389.7
6	7.43	938,10	920.7	119.2	122.3	130.9	148.7	230.2	454.8	392.8

TC P47/PTC PORT-22 NO PSH/PSA NO PSH/PSA NO PSH/PSA NO PSH/PSA NO PSH/PSA NO PSH/PSA NO PSH/PSA NO PSH/PSA PTC 5 0.89714 6 1.00082 11 0.97008 16 1.00759 23 0.92319 29 1.04406 34 1.95787 35 1.14305 1 878.6 372.4 9.0232 4 0,77419 7 0.98258 12 0.96747 17 1.06073 24 1.00258 30 1.01985 41 0.88989 36 1.01332 2 883,4 378.5 0.0232 3 0.96122 8 0.99717 13 0.94247 18 1.02009 25 0.92735 31 0.99613 42 1.28007 37 1.02739 898.1 384.1 0.0230 2 1.30612 9 0.99352 14 1.01072 19 1.01801 26 0.99248 32 1.00446 39 0.80597 38 0.94090 918.1 387.1 0.0227 1 1.35665 10 0.97946 15 1.00811 20 1.00759 27 1.02061 33 0.99509 40 0.92579 43 0.62420 5 927.6 389.7 6.8226 6,84 21 0.98519 28 1.02999 935.5 392.8 0.0225 6.84

1.200 TEMP 101.1 7.424 WIND TUNNEL TEST CONDITIONS..... 0 7.480 ΡŢ BÉTĂ 0.80 POLL 0.0 HODEL ATTITUDE 0.02 PTC/PSA= 122.15 AVERAGE MODEL/NOZZLE PARAMETERS.. PTC= 906.9 TC= 384.1 MEATER PARAMETERS..... HEATER TOTAL PRESSURE: 1100. HEATER TOTAL TEMPERATURE: 450.

TEST 575	RUN	458/0
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FRAME	PŠA	PTC	SKIN(1)	SKIN[2]	YEMPERATU SKIN(3)	SKIN(4)	SKIN(5) HO	DEL-STING FE	EDER-PIPE	TCH
1	7,44	1280.74	1250.7	124.9	135,7	142.2	152.2	217.2	484.2	406.
5	7,44	1317.05	1290.7	124.4	133,5	140.5	158.4	228.9	476.2	414.
3	7.45	1323.37	1299.2	122.7	138.9	139.2	151.3	238.9	473.8	418.
4	7.45	1324.95	1299.2	123.1	129.6	139.2	152.4	247.5	471.2	421.
5	7.47	1352.84	1320.2	122.7	128,3	138.3	151.7	256.6	470.8	424.
6	7.46	1342.32	1310.2	172.7	125.7	137.9	150.4	263.1	469.1	425.

FR PTC IC P47/PTC PORT-22 NO PSH/PSA NO PSH/

<b>-</b>					SKIN[3]	RE DATAT Skini41	EGREES FAHRE	NHEIT DEL-STING FE		TCH
FRAME	PSA	PTC	SKIN(1)	2K1M(5)	2014131	3414141	Setutat 1			
1_	7,47	1629,68	1592.3	85.8	85.8	95.4	150.0	200.3	448.7	412.3
2	7.48	1559.16	1533.4	88.9	87.1	98.0	152.6	215.0	453.4	414.4
3	7,47	1500.21	1476.0	91.0	88.4	101.0	152.6	228.5	455.2	414.0
4	7,46	1452.84	1418.1	92.3	89.7	164.0	151.7	239.3	455.6	411.8
5	7.47	1433.89	1409.7	94.1	90.2	195.8	151.3	247.5	453.4	411.0
_ 6	7,46	1367.58	1341.8	93,6	90.2	107.5	150.4	253.2	448.2	408.8

TC P47/PTC PORT-22 NO PSH/PSA NO PSH/PSA NO PSH/PSA NO PSH/PSA NO PSH/PSA NO PSH/PSA NO PSH/PSA NO PSH/PSA PTC 5 0.89780 6 0.99806 11 0.97268 16 1.00686 23 0.91105 29 1.84053 34 1.93034 35 1.13272 1 1633.4 412.3 0.0175 4 0.88124 7 8.97372 12 6.96877 17 1.06746 24 1.88117 38 1.81308 41 8.97216 36 1.01722 7.23 2 1561.8 415.3 8.0179 3 0.97113 8 1.80220 13 8.93901 18 1.81515 25 0.92555 31 0.99547 42 1.38778 37 1.82786 3 1501.3 415.3 0.0183 7.16 2 1.3446 9 0.98563 14 1.01619 19 1.01463 26 0.99081 32 0.99961 39 0.93021 38 0.96129 4 1463.9 412.3 0.0184 1 1,36268 10 0,97631 15 1,00842 20 0,99702 27 1,01929 33 0,99881 40 1,14360 43 0,93539 5 1427.6 411.0 0.0185 21 0.98407 28 1.03172 6 1366.0 408.8 0.0198 7.07

MIND TUNNEL TEST CONDITIONS..... 0 7.466 PT 17.998 PS HODEL ATTITUDE.... ALPHA 0.06 BETA FOLL ~**a**. 66 AVERAGE HODEL/NOZZLE PARAMETERS.. PTC= 1492.3 TC= 412.5 PTC/PSA= 199.82 HEATER PARAMETERS..... HEATER TOTAL PRESSURE= 2100. HEATER TOTAL TEMPERATURE: 380.

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				*********	TEMPERATU	RE DATA	EGREES FAH	RENHETY		
FRAME	PSA	PTC	2kinfi)	SKIH[2]	SKIN[3]	SKINI41	SK14(5)	MODEL-STING	FEEDER-PIPE	TCH
<u>1</u>	7.51	1681.26	1649.7	130.9	137.4	138.7	151.3	214.6	462.6	391.0
	7.50	1689,16	1654.9	128.3	135.7	137.9	152.6	225.4	450.4	394.1
, , <b>3</b>	7,50	1489.68	1658.6	127.9	133,5	136.1	150.9	235.0	443.5	396.7
4	7.50	1644.95	1608.6	127.5	131.8	135.7	150.9	244.1	438.3	394,5
5	7,58	1576.53	1548.6	126.6	130.1	134,4	147.8	250.6	434.4	392.8
6	7,49	1524.95	1492,3	125.3	128.3	134.4	148.3	255.8	430.0	390.6

FR PTC IC P47/PTC PORT-22 NO PSH/PSA NO PSH/PSA NO PSH/PSA NO PSH/PSA NO PSH/PSA NO PSH/PSA NO PSH/PSA NO PSH/PSA 1 1683.4 391.5 0,0174 8.08 5 0.89517 6 0.99165 11 0.99784 16 1.07265 23 1.05047 29 1.14409 34 1.92551 35 1.13612 2 1692.8 394.5 9.9173 8.29 4 0.79765 7 1.05150 12 0.98082 17 1.12786 24 1.04221 30 1.09671 41 1.08813 36 1.12734 3 1688.1 396,7 0,0174 3 0.95811 8 1.11651 13 1.00971 18 1.10464 25 0.97359 31 1.09587 42 1.36674 37 1.08710 4 1061.8 395.4 0.0174 8.06 2 1.29967 9 1.07627 14 1.03654 19 1.10877 26 1.04582 32 1.09639 39 1.06182 38 1.09020 5 1573.9 393.6 0.0179 7,98 1 1.38996 10 1.02673 15 1.09226 20 1.10877 27 1.08400 33 1.08504 40 1.27233 43 1.06285 6 1525.5 391.5 8.0180 7.93 21 1.09071 28 1.08297

		7			TERPERATU		EGREES FAHRE	NHEIT		704
FRAHE	PSA	PTC	SKIN[1]	SKIN(2)	SKIN[3]	SKIN[4]	SKIN(5) NO	DEL-STING FE	EDEK-LILE	TCH
1	10.62	1670.74	1648.7	124.0	131.4	131.4	148.3	194.7	441.3	368,5
2	10.62	1676.00	1644.4	122.3	129.2	130.1	150.9	206.4	427.9	371.5
3	10.63	1673.37	1648.6	121.0	127.0	129.6	151.7	216.3	428.5	375.4
4	10,63	1656.00	1624.9	120.1	125.7	128.3	151.7	225.4	416.6	375.4
5	10.61	1591.79	1563.9	122.3	124.9	128.3	150.9	234.1	414.4	375.9
6	10.59	1535.47	1510.2	119.2	123.1	127.9	148.3	239.7	410.1	374.6

FR PTC 1C P47/PTC PORT-22 NO PSH/PSA NO PSH/

WIND TUNNEL TEST CONDITIONS..... 0 6.048 PT 18.002 PS 10.618 R/L 5.2 MACH 0.902 TFMP 98.2 MODEL ATTITUDE...... ALPHA 0.02 BETA 0.00 ROLL 0.0 AVERAGE MODEL/NOZZLE PARAMETERS. PTC= 1631.4 TC= 374.0 PTC/PSA= 153.65 PSM(22)/PSA= 0.9910 HEATER PARAMETERS...... HEATER TOTAL PRESSURE= 2078. HEATER TOTAL TEMPERATURE= 330.

TEST 575	RUN	452/1
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HSFC TRISONIC WIND	TUNNEL	HUNTSVILLE.	ALABAHA
PLUME TECHNOLOGY		NON-QUIESCENT	PHASE

6	SEPT	Ε	H.	B€	R	1	97	3	

					TEHPERATU	RE DATAD	EGREES FAF	RENHETT		
FRANE	PSA	PTC	SKIN[1]	5KIN(21	2K1M[3]	SKIN[4]	SKIN(5)	HODEL-STING	FEEDER-PIPE	TCH
. 1	10.61	1685.47	1646.0	120.5	124.9	124.9	148.7	194.7	467.8	384.1
2	10.61	1690.21	1664.4	119.7	123.1	124.9	151.7	209.4	451.7	5 <b>88.</b> 0
3	10.69	1689.16	1646.8	118.8	122.3	124.9	152.6	220.7	443.0	391.0
4	10.60	1647.05	1616.5	118.4	121.6	124.9	151.7	230.6	436.5	390.2
5	10.59	1586.53	1556.0	117.5	120.1	124.9	150.9	238.9	431.8	388.4
<b>6</b>	10,59	1537.05	1505.5	117.5	120.1	125.3	148.3	245.8	427.9	387.6

FR PTC TC P47/PTC PORT-22 MO PSM/PSA NO PSM/

4-256

16	SEPTEMBER 1973	-	-	MSFC	TRISONIC WIND	TURNEL HUNTSVILLE,	ALABAHA
				PLU	KE TECHNOLOGY	TESTMON-QUIESCENT	PHASE

TEST 575 RUN 453/0

					TENPERATU	RE DATA	EGREES FAI	RRENHETT		
FRAME	PSA	PTC	SKIN[1]	SK14[2]	SKIN[3]	SKIN[4]	SK1N(5)	MODEL-STING	FFEDER-PIPE	TCH
1	10.89	1299.16	1272.8	86.7	86.7	89.7	148.3	136.6	457.8	345.5
5	10.90	1296.53	1272.6	87.1	87.1	919	152.2	153.9	437.4	350.3
3	10.89	1338.74	1303.9	87.1	88,0	93.6	152.2	168,6	424.4	355.0
4	18.91	1318.63	1291.8	88.4	89,7	95.4	153.0	189.8	415.7	356.8
5	10.89	1319.16	1293.9	90.6	91.0	98.4	152.2	192.0	410.5	359.4
6	10.92	1339.68	1313.4	91.0	92.5	99.7	152.6	501.5	406.6	361.5

FR PTC 1C P47/PTC PORT-22 NO P3M/PSA NO PSM/

2     10.71     825.47     812.8     125.7     133.1     135.3     150.4     192.5     469.5       3     10.71     846.53     829.7     125.7     131.8     134.4     152.6     201.2     458.2     373.7       4     10.71     835.47     816.0     122.3     128.3     133.1     152.2     209.4     458.4     375.9       5     10.72     849.68     838.1     122.3     127.9     132.7     148.3     216.8     444.8     379.3	*	&6 SEPTEN	HER 1973	· <del>-</del>	HSFC T PLUM	RISONIC WIN	D TUNNEL Y TEST,NO	M-ONIESCEMI	PHASE		TEST 575	RUN 454/
FRAME PSA PTC SKINI1 SKINI2 SKINI3 SKINI4 SKINIS HODEL-STING FEEDER-PIPE TCH  1 10.68 813.69 881.8 126.2 134.4 36.6 148.7 181.2 482.5 363.3  2 10.71 825.47 812.8 125.7 133.1 135.3 150.4 192.5 469.5 369.4  3 10.71 846.53 829.7 125.7 131.8 134.4 152.6 201.2 458.2 373.7  4 10.71 835.47 816.0 122.3 128.3 133.1 152.2 209.4 456.2 373.7  5 10.72 849.68 838.1 122.3 127.9 132.7 148.3 216.8 444.8 379.3  6 10.71 860.74 845.5 121.8 126.6 132.2 150.4 224.1 449.4 361.5  FR PTC TC P47/PTC PDRT-22 NO PSN/PSA NO PSN/P	; (						-TEMPERATUR	E DATADE	GREES FAIRE	NYE I Yahaasaa	řěčenembe	
2 10.71 825.47 812.6 125.7 135.1 135.3 150.4 192.5 469.5 369.4 3 10.71 846.53 829.7 125.7 131.6 134.4 152.6 201.2 456.2 373.7 4 10.71 835.47 816.0 122.3 128.3 133.1 152.2 209.4 450.4 375.0 5 10.72 849.68 838.1 122.3 127.9 132.7 148.3 216.8 444.8 379.3 6 10.71 860.74 845.5 121.8 126.6 132.2 150.4 224.1 440.4 361.5 6 10.71 860.74 845.5 121.8 126.6 132.2 150.4 224.1 440.4 361.5 6 132.2 150.4 224.1 440.4 240.4 240.4 240.4 240.4 240.4 240.4 240.4 240.4 240.4 240.4 24	•	FRANE	PSA									TCH
3 10.71 846.53 829.7 125.7 131.6 134.4 152.6 201.2 458.2 373.7 4 10.71 835.47 816.0 122.3 128.3 133.1 152.2 209.4 458.4 375.9 5 10.72 849.68 838.1 122.3 127.9 132.7 148.3 216.8 444.8 379.3 6 10.71 860.74 845.5 121.8 126.6 132.2 150.4 224.1 448.4 361.5  FR PTC TC P47/PTC PORT-22 NO P5M/P5A NO P5M/	1	1	10,68	813.89	881.8	126.2	134.4	-36.6	148.7	181.2	482.5	363.3
4 10,71 635.47 816.0 122.3 128.3 133.1 152.2 209.4 456.4 375.0 5 10,72 849.68 836.1 122.3 127.9 132.7 148.3 216.8 444.8 379.3 0 10,71 860.74 845.5 121.8 126.6 137.2 150.4 224.1 448.4 381.5 1 812.8 363.3 8.8243 9.42 5 0.99963 6 8.98198 11 8.99678 16 8.97648 23 9.95990 29 1.81223 34 1.33970 35 1.8454 2 623.9 369.8 8.0241 9.66 4 0.95589 7 8.96745 12 0.96781 17 1.82028 24 0.97179 38 8.99635 41 8.87714 36 1.0328 (3 844.9 374.6 8.8236 9.60 3 8.89448 8 8.99238 13 0.97432 18 8.99346 25 0.95601 31 8.99093 42 0.86883 37 1.0136 4 839.7 376.3 0.0238 9.69 2 1.81939 9 0.98479 14 0.97432 19 8.98804 26 0.96492 32 0.97685 39 0.80683 38 0.9338 (3 8.9748 28 8.9748 28 8.9949 28 8.9948 28 8.9949 1 1.14917 18 0.97676 15 0.98660 28 0.97865 27 0.99274 33 0.96203 40 0.39998 45 0.86890 6 838.6 381.9 9.8235 9.78 21 8.99887 28 0.99419	· ·	2	10.71	825,47	812.6	125.7	133,1	135,3	150.4	192.5	469.5	369.4
5 10,72 849,08 838.1 122.3 127.9 132.7 148.3 216.8 444.8 379.3  6 10,71 860.74 845.5 121.8 126.6 132.2 150.4 224.1 448.4 361.5  FR PTC TC P47/PTC PORT-22 MO PSM/PSA NO PSM/PSA		3	10.71	846.53	829.7	125.7	131.6	134,4	152.6	201.2	458.2	373,7
FR PTC TC P47/PTC PORT-22 NO PSN/PSA NO PSN/		4	10,71	635.47	816.0	122,3	128.3	133.1	152.2	209.4	450.4	375,9
FR PTC TC P47/PTC PORT-22 NO PSN/PSA NO PSN/		5	10,72	849,68	838.1	122.3	127.9	132.7	148.3	216.8	444.8	379.3
1 812.8 363.5 8.8243 9.62 5 0.99963 6 8.98198 11 8.99878 16 8.97648 23 0.99950 29 1.81225 34 1.35978 35 1.8454 2 823.9 369.8 8.8241 9.66 4 0.95589 7 8.96745 12 0.96781 17 1.82828 24 0.97179 38 8.99635 41 0.87714 36 1.0328 ( 3 844.9 374.6 8.8236 9.68 3 0.889448 8 8.99238 13 0.97432 18 8.89346 25 0.95661 31 0.99093 42 0.86883 37 1.0136 4 839.7 376.3 0.0238 9.69 2 1.08992 9 0.98479 14 0.97432 19 0.98804 26 0.96492 32 0.97685 39 0.8668 38 0.9338  5 839.7 379.8 8.8239 9.69 1 1.14917 18 0.97876 15 0.98668 28 8.97865 27 0.99274 33 8.96203 40 0.39998 43 0.8898 6 858.6 381.9 8.8235 9.76 21 8.95987 28 0.99419  WIND TUNNEL TEST CONDITIONS Q 5.998 PT 18.007 PS 10.787 R/L 5.1 MACH 0.895 TEMP 103.0 MODEL ATTITUDE	-	6	10.71	860.74	845.5	121.6	126.6	132.2	150.4	224.1	448.4	381.5
1 812.8 363.3 8.8243 9.42 5 0.99563 6 8.98198 11 8.95878 16 8.97648 23 0.95950 29 1.81225 34 1.35978 35 1.8454 2 823.9 369.8 8.9241 9.66 4 0.95589 7 8.96745 12 0.96781 17 1.82928 24 0.97179 38 8.99635 41 0.87714 36 1.0328 ( 3 844.9 374.6 8.8236 9.68 3 0.89448 8 8.99238 13 0.97432 18 8.99346 25 0.95661 31 0.99093 42 0.86883 37 1.0136 4 839.7 376.3 0.0238 9.69 2 1.08992 9 0.98479 14 0.97432 19 0.98804 26 0.96492 32 0.97685 39 0.86686 38 0.9338 5 839.7 379.8 8.8239 9.69 1 1.14917 18 0.97876 15 0.98668 28 8.97865 27 0.99274 33 8.96203 40 0.39998 43 0.8898 6 858.6 381.9 0.8235 9.78 21 8.95987 28 0.99419  WIND TUNNEL TEST CONDITIONS Q 5.998 PT 18.007 PS 10.787 R/L 5.1 MACH 0.895 TEMP 103.0 MODEL ATTITUDE	* ** *********************************	. , , <del>, , , , , , , , , , , , , , , , ,</del>		<del></del>				<del></del>				
2 823,9 369,8 8.0241 9.66 4 0.95509 7 8.96745 12 0.96781 17 1.82028 24 0.97179 38 8.99635 41 8.87714 36 1.0328  ( 3 844,9 374,6 8.6236 9.68 3 6.89448 8 8.99238 13 0.97432 18 8.99346 25 0.95661 31 0.99093 42 0.86883 37 1.0136  4 839,7 376,3 0.0236 9.69 2 1.08992 9 0.98479 14 0.97432 19 0.98804 26 0.96492 32 0.97685 39 0.86768 38 0.9338  5 839,7 379,8 8.6239 9.69 1 1.14917 18 0.97876 15 0.98648 28 8.97865 27 0.99274 33 8.96203 40 0.39998 43 0.8890  6 858,6 381,9 9.8235 9.76 21 8.95987 28 0.99419  WIND TUNNEL TEST CONDITIONS Q 5.998 PT 18.007 PS 10.707 R/L 5.1 MACH 0.895 TEMP 103.0 MODEL ATTITUDE ALPHA 6.02 BETA 8.88 ROLL 0.0  AVERAGE MODEL/NOZZLE PARABETERS PTC= 836.6 TC= 374.3 PTC/PSA= 78.14 PSM(22)/PSA= 0.9835		FR PTC	TC P47/P	TC PORT-22	NO PSH/PSA	NO PSH/PSA	NO PSH/PSA	NO PSM/PSA	NO PSH/PSA	NO PSH/PSA I	O PSH/PSA	NO PSH/PS
( 3 844.9 374.6 0.6236 9.68 3 0.89448 8 0.99238 13 0.97432 18 0.99346 25 0.95661 31 0.99093 42 0.86883 37 1.0136 4 839.7 376.3 0.0238 9.69 2 1.08992 9 0.98479 14 0.97432 19 0.98804 26 0.96492 32 0.97685 39 0.86768 38 0.9338 5 839,7 379,8 0.6239 9.69 1 1.14917 18 0.97876 15 0.98668 28 0.97865 27 0.99274 33 0.96203 40 0.39998 43 0.8898 6 858.6 381.9 0.8235 9.78 21 0.98688 28 0.99419  WIND TUNNEL TEST CONDITIONS Q 5.998 PT 18.007 PS 10.787 R/L 5.1 MACH 0.895 TEMP 103.0 MODEL ATTITUDEALPHA 0.02 BETA 0.88 ROLL 0.0 AVERAGE MODEL/MOZZLE PARAMETERS. PTC= 836.6 TC= 374.3 PTC/PSA= 78.14 PSMI221/PSA= 0.9835		1 812.5	363,3 8,82	43 9,62	5 0.99563	6 8,98198	11 0,95878	16 8,97648	23 0.95950	29 1.01225 3	34 1.35978	35 1.8454
4 839.7 376.3 0.0236 9.69 2 1.08992 9 0.98479 14 0.97432 19 0.98804 26 0.96492 32 0.97685 39 0.86968 38 0.9338 5 839.7 379.8 8.8239 9.69 1 1.14917 18 0.97876 15 0.98668 28 8.97865 27 0.99274 33 8.96203 40 0.39998 43 0.8890 6 858.6 381.9 9.8235 9.78 21 8.95987 28 0.99419  WIND TUNNEL TEST CONDITIONS Q 5.998 PT 18.007 PS 10.787 R/L 5.1 MACH 0.895 TEMP 103.0 MODEL ATTITUDE		2 823,9	369,8 0,02	41 9.66	4 0.95589	7 8.96745	12 0.96781	17 1.02020	24 0.97179	38 8.99635	1 0.87714	36 1.0328
5 839,7 379.8 8.8239 9.69 1 1.14917 18 8.97876 15 0.98668 28 8.97865 27 0.99274 33 8.96203 40 0.39998 43 0.8898 6 858,6 381.9 0.8235 9.78 21 8.95987 28 0.99419  HIND TUNNEL TEST CONDITIONS Q 5.998 PT 18.007 PS 10.707 R/L 5.1 MACH 0.895 TEMP 103.0 MODEL ATTITUDE ALPHA 0.02 BETA 0.88 ROLL 0.0 AVERAGE MODEL/NOZZLE PARAMETERS PTC= 836.6 TC= 374.3 PTC/PSA= 78.14 PSM(22)/PSA= 0.9835	(	3 B44.9	374,6 0.02	36 9,68	3 0.89448	8 8.99238	13 0.97432	18 4.99346	25 0.95661	31 0.99093	2 0.86883	37 1.0136
6 858,6 381,9 \$.8235 9.78 21 8.95987 28 0.99419  HIND TUNNEL TEST CONDITIONS Q 5.998 PT 18.087 PS 10.787 R/L 5.1 MACH 0.895 TEMP 183.0 MODEL ATTITUDE ALPHA 8.02 BETA 8.88 ROLL 0.0 AVERAGE MODEL/NOZZLE PARAMETERS PTC= 836.6 TC= 374.3 PTC/PSA= 78.14 PSM(22)/PSA= 0.9835		4 839.7	376.3 0.02	38 9.69	2 1.08992	9 0.98479	14 0.97432	19 0.98804	26 8.96492	32 0.97685 3	39 g.86068	38 p.9338
WIND TUNNEL TEST CONDITIONS Q 5.998 PT 18.007 PS 10.707 R/L 5.1 MACH 0.895 TEMP 103.0 MODEL ATTITUDEALPHA 0.02 BETA 0.00 ROLL 0.0 AVERAGE MODEL/NOZZLE PARAMETERS PTC= 836.6 TC= 374.3 PTC/PSA= 78.14 PSM(22)/PSA= 0.9835	<u>L</u>	5 439,7	379.8 8.82	39 9,69	1 1.14917	10 9.97076	15 0.98668	20 0.97865	27 0.99274	33 4,96203	10 0.39998	45 0.8890
MODEL ATTITUDE ALPHA 8.02 BETA 8.88 ROLL 0.0 AVERAGE MODEL/NOZZLE PARAMETERS PTC= 836.6 TC= 374.3 PTC/PSA= 78.14 PSM[22]/PSA= 0.9835		6 858.6	381,9 9.82	35 9.78				21 0.95987	28 0.99419			•
MODEL ATTITUDE ALPHA 8.02 BETA 8.88 ROLL 0.0 AVERAGE MODEL/NOZZLE PARAMETERS PTC= 836.6 TC= 374.3 PTC/PSA= 78.14 PSM[22]/PSA= 0.9835	<u>!</u>											
	·	HOBEL ATT	1100E	******	ALPHA	9.02 BET	A 9.88	ROLL				103.0
	!						RE= 1100.	HEATER T	OTAL TEMPER	ATURES 460.	•	
		<u>-</u>						<del>,</del>				
energy of the second of the se	<b>i</b>		-	÷ ÷ .			<del></del> .	<del>-</del>				-
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					TEMPERATU	RE DATAD	EGREES FAHRE	NHE I T		
FRAHE	<b>PSA</b>	PTC	SKINELL	SKIN[2]	SK[5[3]	5K1N[4]	SKIMIĐĮ HO	JEL-STING FEI	:0EP-P1Pe	من ₹
1	18.65	476.00	464.9	116.2	126.1	122.7	140.3	165.6	<b>719.4</b>	345.4
2	10.65	483.89	472.8	114.9	118.4	122.3	151.3	173.0	500.7	350.7
3	10.65	487.58	476.1	115.3	117.9	122.3	148.7	190.3	4=7.9	355.1
4	10.64	489.68	482.3	115.8	117.9	122.3	151.3	157.3	480.3	327.4
5	10.66	493.37	486.5	114.5	116.6	122.3	150.9	102.9	471.7	101.2
t	18.66	497.05	488.1	114.5	116.2	122.7	151.5	197.7	463.7	361.5

TO P47/PTC PORT-22 NO PSM/PSA NO PSM/PSA NO PSM/PSA NO PSM/PSA NO PSM/PSA NO PSM/PSA NO PSM/PSA NO PSM/PSA 5 0.99968 6 0.98407 11 0.95901 16 0.97572 23 0.96119 29 1.01058 34 1.36463 35 1.04616 477.1 346.8 8.0338 4 0.95575 7 0.96591 12 0.96446 17 1.01748 24 0.96918 30 0.99206 41 0.79016 30 1.03u55 2 483.9 350.7 0.0327 9.20 3 0,89147 8 0,99206 13 0,97209 18 0,98915 25 0,95328 31 0,98516 42 0,88932 37 1,81821 3 488,1 355.5 0.0325 2 1.08901 9 0.98225 14 n.9/172 19 0.98153 26 n.96228 32 0.9673/ 39 0.76983 38 0.89583 9.20 4 469.7 350.1 8.0325 1 1.15183 10 0.96991 15 0.96443 20 0.97063 27 0.99097 33 0.94739 40 0.79734 43 0.01231 5 492.3 360.7 0.0324 21 0.94667 28 9.99170 9.23 6 497.1 362.0 0.0322

MIND TUNNEL TEST CONDITIONS..... U 6.027 PT 18.000 PS 10.652 R/L 5.1 MACH 0.899 TEMP 103.2 HODEL ATTITUDE...... ALPHA 0.02 BETA 0.00 ROLL 0.0 AVERAGE HODEL/NOZZLE PARAMETERS.. PTC= 488.0 TC= 355.6 PTC/PSA= 45.81 PSH(22)/PSA= 0.8648 HEATER PARAMETERS...... HEATER TOTAL PRESSUPE= 600. HEATER TOTAL TEMPERATURE= 450.

-{	•					TEHPERATU	RE DATAD	EGREES FAHR	ENHEIT		
	FRAME	PSA	PTC ,	SKIN[1]	SKIN[3]	SK[N[3]	SKIN(4)	SKIN(5) H	BDEL-STING FE	FDEA-blag	1 CH
_	1_	10.58	446,53	440.2	117.5	123.1	125.3	146.7	171.2	530.2	350.7
	2	18,59	444,43	43 .1	116.6	122.3	125.3	152.6	178-6	515.0	354.6
	\$	10.59	449.16	442.3	116.6	120.1	124.0	147.8	185.1	500.7	359.4
	4	10,58	452.85	445,5	115.3	116.8	123.6	150.6	191.2	498.5	361.1
	. 5	10.59	456.53	448.6	114.0	117.9	123.1	151.3	196.0	478.6	362.4
-	6	10.59	457.06	449.2	113.6	117.1	123.1	152.6	200-3	669,9	363.7

TO P47/PTC PORT-22 NO PSH/PSA NO PSH/PSA NO PSH/PSA NO PSH/PSA NO PSH/PSA NO PSH/PSA NO PSH/PSA NO PSH/PSA FR PTC 9.86 5 0.99425 6 8.97927 11 0.94764 16 8.96721 23 0.95625 29 1.02567 34 1.36330 35 1.03627 1 446.0 351.1 0.0346 4 8.95296 7 8.96218 12 0.95552 17 1.00968 24 8.96173 38 9.95402 41 0.77728 36 1.02421 2 446,0 355,5 8,8346 3 0.88061 8 6.98621 13 0.96283 18 0.98183 25 0.94127 31 0.97744 42 0.93725 37 1.00302 3 449,2 359.4 8,6345 2 1.06766 9 8.97635 14 8.96356 19 8.97452 26 8.95486 32 8.95917 39 8.75389 38 8.88982 9,47 4 453.4 362.4 8.9342 1 1.15101 18 8.95954 15 0.97525 28 0.96283 27 0.98183 33 0.93834 40 0.77428 43 0.79365 9.87 5 457.6 362.8 3.0348 21 0.93798 28 0.98219 \_ 9,07 .... 6 456.5 364.1 8.9341

99.0 10.546 R/L WIND TUNNEL TEST CONDITIONS..... 0 6.069 PT 18.004 PS MOREL ATTITUDE...... ALPHA 0.02 BETA 0.00 RÖLL PSM[22]/PSA= 0.8570 PTC/PSA= 42.65 AVERAGE MODEL/MOZZLE PARAMETERS.. PTC= 451.4 TC= 359.2 HEATER PARAMETERS..... HEATER TOTAL PRESSURE: 606. HEATER TOTAL TEMPERATURES 740.

			******		TENPERATU	RE DATA	EGREES FAR	RENHEIT		
FRAHE	FSA	PTC	SKINLII	SKIN(21	SKIN[3]	SKIN[4]	2K[N[5]	MODEL-STING	FEEDER-PIPE	TCH
1	10.75	906.53	890.2	153.9	169.5	173.4	152.2	276.1	741.7	534.1
<b>2</b>	18.73	924.55	986.5	153.0	166.0	170.4	151.7	290.0	713.7	540.1
3	19.71	937.06	918,1	150.4	163.0	167.3	152.2	300.9	694.0	541.9
4	10.72	943.90	923.4	145.7	158.7	164.7	152.2	311.3	675.0	542.3
>	10.71	941.27	920.7	143.9	156.1	162.6	150.9	319.9	659.4	543.2
•	10.71	946.53	928.6	143.9	153.9	161.3	147.8	328.2	647.2	541.9

TC P47/PTC PORT-22 NO PSM/PSA NO PSM/PSA NO PSM/PSA NO PSM/PSA NO PSM/PSA NO PSM/PSA NO PSM/PSA NO PSM/PSA 5 0.99675 6 0.98232 11 0.96247 16 a.97979 23 0.96030 29 1.04338 34 1.56384 35 1.03789 1 901.8 535,4 0.0229 4 0.95381 7 0.96644 12 0.96752 17 1.01732 24 0.97005 30 0.99422 41 0.89679 36 1.02995 2 924.4 541.0 8.8225 3 8.89318 8 4.99825 13 6.97438 18 8.99286 25 6.95705 31 8.98845 42 8.82186 37 1.01443 3 939.1 543.2 6.0223 9.82 2 1.06769 9 0.98232 14 0.97582 19 0.98809 26 0.96066 32 0.97654 39 0.88127 38 0.94514 4 942 8 343.2 0.0223 9.82 1 1.14832 16 6.96824 15 6.98412 20 6.97798 27 6.98989 33 6.96211 46 6.92818 43 6.90725 /5 943.9 \$43.6 Q.#223 9.80 21 8.96175 28 0.99170 9.82 6 947.6 542.8 d.#223

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					TEMPERATU	RE DATAD	EGREES FAHRE	WHE!T		
FRAME	PSA	PTC	SKIN[1]	SKIN[2]	SKIV[3]	5K1N(4)	SKIN[5] HO	UFL-STING FE	EDF8-bibe	Тын
1	10.65	1686.01	1657.1	122.7	176.2	119.2	152.0	286.6	674.1	501.6
5	10,65	1707.06	1688.6	122.3	125,3	120.5	151.3	384.8	653.7	554.5
3	10.65	1689.69	1655.0	122.7	124.4	121.4	148.7	319.5	640.3	554.0
4	10.65	1626.01	1605.5	122.3	124.4	124.0	151.3	331.2	629.0	551.0
Þ	10.63	1581.27	1551.3	123.1	124.4	125.3	152.6	342.0	520.6	548.0
6	10.60	1510.74	1484.4	124.0	124.0	127.5	151.3	349.4	611.7	548.1

IC P47/PTC PORT-22 NO PSM/PSA NO PSM/PSA NO PSM/PSA NO PSM/PSA NO PSM/PSA NO PSM/PSA NO PSM/PSA NO PSM/PSA 1 1682.3 550.6 9.8174 18.63 5 0.99831 6 0.98305 11 0.96269 16 8.98995 23 8.96196 29 1.85757 34 1.36696 35 1.02485 2 1703.9 554.9 0.0173 10.63 4 0.95469 7 0.96741 12 0.96959 17 1.83067 24 0.97141 30 1.01213 41 1.08348 36 1.03794 3 0.89288 8 0.99359 13 0.97832 18 1.01068 25 0.95832 31 1.01177 42 0.77616 37 1.03394 3 1694.4 554.9 0.0173 10.63 4 1617.1 551.4 0.0178 14.57 2 1.09211 9 0.98377 14 0.97977 19 1.00886 26 0.96559 32 1.01140 39 0.96159 36 1.01504 10,51 1 1,15391 10 0,96959 15 0,99213 28 1,00595 27 0,99795 33 1,00522 40 1,09247 43 0,99032 5 1579.2 546.4 0.0178 6 1511.8 541.0 0.8182 10.42 21 0.99541 28 7.99686

		 ** =			TENPERATU	RE DATAD	EGREES FAHR	ENHEIT		
FRAME	PSÁ	PTC	SKIN[1]	SKIN[2]	SK[N[3]	SKIM(4)	\$K1N(5) +	IOUEL-STING F	FEDER-PIPE	TCH
1	7,41	1659.74	1622.3	123.1	127.0	130.5	148.7	275.9	714.9	537.1
2	7,38	1666.53	1637.1	122.3	125.7	130.5	150.9	251.9	681.5	543,6
3	7.38	1059.17	1631.3	122.3	123.6	130.1	147.8	272.2	657.6	545.7
4	7.38	1654.95	1617.1	121.4	123.6	130.5	150.9	290.9	642.5	545.8
5	7.38	1595.48	1562.3	121.8	121.8	130.9	148.3	305.2	629.0	544.1
6	7.38	1560.22	_ 1533.9	121.4	120.5	131.8	151.7	317.8	619.0	538.4

TO P47/PTC PORT-22 NO PSH/PSA NO PSH/PSA NO PSH/PSA NO PSH/PSA NO PSH/PSA NO PSH/PSA NO PSH/PSA PTC 7.23 5 0.86120 6 0.99750 11 0.97286 16 1.00327 23 0.93045 29 1.17930 34 1.96096 35 1.10543 1 1647.1 538.4 9.0176 4 0.76594 7 0.98126 /2 0.97236 17 1.04989 24 0.99803 30 1.02422 41 0.99698 36 1.01532 2 1667.1 544.1 0.0175 3 0.94407 8 0.98126 13 0.94511 18 1.02265 25 0.92992 31 1.01689 42 1.08866 37 1.02580 3 1663.9 546.7 9.0176 7.24 7.24 2 1.30713 9 0.98887 14 1.88170 19 1.01427 26 0.97917 32 0.99960 39 0.97760 35 0.97602 4 1661.8 546.2 0.8175 7.20 1 1.37852 10 0.97236 15 1.08589 20 1.80536 27 1.02003 33 8.98912 40 1.24636 43 0.97917 5 1600.7 544.9 0.0178 21 0.98703 28 1.01794 7,14 6 1569.7 530.4 0.0178

					TEMPERATU	RE DATAD	EGREES FAH	RENUETT		
FRAME	PSA	PTC	SKIN[1]	SKIN[2]	2K[N[3]	SKIN[4]	\$K N[5]	MODEL-STING	teEüfb-blbF	TCH
1	7.30	863.38	844.4	108.4	111.4	114.9	148,3	180.4	812.8	501.1
2	7.31	871.80	855.0	107.1	110.1	115.3	148.7	207.7	769.9	511.1
3	7.30	588.11	868.6	107.5	109.7	115.8	150.4	226.7	735.7	516.7
4	7.31	889,69	876.0	187-1	109.7	116.2	148.3	242.8	707.5	520.6
5	7.31	903.38	889.7	107.5	109.5	117.9	152.6	257.1	683.6	521.9
6	7.30	908.64	888.1	108.4	109.3	118.8	147.8	270.1	865.9	527.8

FR	PTC IC P47/PTC	PORT-22 NO PSM/PSA NO PSM/PSA NO PSM/PSA NO	D PSH/PSA NO PSH/PSA NO PSH/PSA NO PSH/PSA
1	865.0 501.6 0.0234	6,79 5 0.88753 6 0.98708 11 0.96696 16	6 9.98602 23 0.95107 29 1.15971 34 1.97363 35 1.11788
2	871.8 511.5 0.0234	6.79 4 0.77155 7 0.96908 12 0.98496 17	7 1.85380 24 0.99185 30 1.03527 41 0.80756 36 1.01727
3	889.7 517.2 0.0230	6.79 3 0.95001 8 0.97278 13 0.95478 15	3 1.83156 25 0.93466 31 1.02660 42 1.09352 37 1.01350
4	885.5 521.1 0.0233	6.78 2 1.38746 9 0.99502 14 0.98928 19	1.02097 26 0.96961 32 1.00932 39 0.79909 38 0.93413
5	902.3 525.2 0.0230	6.86 1 1.36518 10 0.98443 15 1.00085 20	1.90826 27 1.03209 33 8.97755 40 0.91824 43 0.81710
6	909.7 525.7 0.0229	0,88 21	1 0.98761 28 1.01780

MIND TUNNEL TEST CONDITIONS..... Q 7.514 PT 18.004 PS 7.304 R/L 5.5 HACH 1.212 TEMP 101.2 HOBEL ATTITUDE...... ALPHA 9.02 BETA 0.00 ROLL 6.0 AVERAGE HOBEL/NOZZLE PARAMETERS.. PTC= 887.3 TC= 516.4 PTC/PSA= 121.48 PSMI221/PSA= 0.9296 HEATER PARAMETERS.... REATER TOTAL PRESSURE= 1100. HEATER TOTAL TEMPERATURE= 615.

. :							TEMPERATU	RE DATAT	EGREES FAHRE			
	i	FRAME	MSA	PTC	SKIM[1]	SKINISI	SKIK[3]	5K1H[4]	SKINEST MO	⊍EL-STING FEE	1614-515F	TCH
<b>.</b>		1	5.09	1703.38	1663.9	92.8	93.0	91.2	150.9	212.5	647.1	525.8
OF DE		2	5.15	1710.74	1672.3	92.8	93.2	94.9	148.3	229.8	655.9	531.0
ORIGINAI OF POOR		3	5,16	1684.43	1652.8	93.2	92.8	96.2	152.2	252.3	634.7	528.9
S E		4	5.16	1640.22	1607.6	94,5	94.5	98.8	150.4	272.2	620.3	526.9
원당		5	5.17	1564.43	1543.4	94.5	94,5	100.6	152.6	286.6	664.2	525.0
PAGE QUALL		6	5.18	1512.85	1480.2	98.0	94.9	102.3	152.2	300.0	597.4	518.5

FR	PTC	TC P47/PTC	PORT-22	NO	PSH/PSA	NO	PSH/PSA	NO	PSM/PSA	NO	PSH/PSA	NO	PSH/PSA	٩O	PSM/PSA	NO	PSM/PSA	NO	PSM/PSA	
1	1768.1	526.3 0.0172	5.32	_ 5	0.87538	6	0.87237	11	0.96247	16	0.91216	23	0.93544	29	1.01502	34	2,78454	35	9.93694	
2	1716.0	531.5 0.0172	5,35	4	0.79129	7	0.94069	12	0.94069	17	0.93093	24	1.91126	30	0.89545	41	1.09159	36	1.15214	
3	1685.5	530.2 0.0175	5,35	3	1.03454	8	0.99325	13	0.95496	18	0.94069	25	g.92568	31	0.97298	42	1.59310	37	1.07132	
4	1037.6	529.7 0.0176	5.32	2	1.38439	9	1.00451	14	r.95946	19	0.96772	26	0.88138	32	1.01/27	39	1.05256	38	1.10211	
5	1563.9	526.7 0.0179	5.30	i	1.41442	10	0.99625	15	0.95871	20	0.96096	27	0.94295	33	1.0061	40	1.69220	45	1.05631	
6	1513.9	510.5 0.0182	5,26							21	1.02328	28	1.94295							

HIND TUNNEL TEST CONUITIONS..... Q 7.745 PT 18.002 PS 5.152 R/L 5.3 MACH 1.466 TEMP 101.0 MODEL ATTITUDE.................. ALFHA 0.00 BETA 0.00 ROLL 0.0 AVERAGE MODEL/NOZZLE PARAMETERS.. PTC= 1637.5 TC= 527.1 PTC/PSA= 317.83 PSM1221/PSA= 1.0320 MEATER PARAMETERS..................... HEATER TOTAL PRESSURE= 2106. HEATER TOTAL TEMPERATURE= 620.

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				********	TEMPERATI	RE DATA-E-T	NEGRGES FAI	MOERNE I T		
FRAME	PSA	PTC	SKIN[1]	SKIN(2)	SK14[3]	5K[N[4]			FEEDER-PIPE	TCH
1	5+15	878.74	856.0	92.8	101.9	119.7	148.7	249.7	720.5	517.2
2	5.13	894.43	879.2	94.9	101.4	119.7	150.0	264.4	694.5	521.5
ડ	5.16	898.64	885.5	95.4	101.4	118.8	148.7	276.6	671.9	524.1
4	5.17	911.80	893.4	95.8	101.0	117.2	151.7	267.4	654.2	524.1
5	5.13	918.64	902.8	95.8	101.0	118.8	148.3	297.0	648.3	524.1
6	5.15	923.90	908.1	98.8	100.6	118.8	148.3	364.8	628.2	524.1

FR	PTC	TC P47/PTC	PORT-22	NO	PSH/PSA	40	PSM/PSA	NO	P\$H/PSA	NO	PSH/PSA	NO	PSH/PSA	NĐ	PSM/PSA	NO	PSH/PSA	NO	PSH/PSA
. 1	870,2	517.6 0.0235	5.02		0.88482	6_	0.89909	11	0.96969	16	0.91862	23	0.95542	29	1.09062	34	2,79866	35	0.96218
2	891.3	521.9 0.0231	5,04	4	0.79318	7	0.93890	12	0.94848	17	0.92763	24	1.00950	30	0.98772	41	0.89308	36	1.13193
3	897.6	524.5 0.0230	5,02	3	1.03204	8	1.00575	13	n.90068	18	0.95091	25	0.93289	31	0.98997	42	1.56458	37	1.07109
4	913.9	525.0 0.0227	5.02	5	1.37755	9	1.00049	14	0.95317	19	0.97270	26	89083	32	1.02227	39	0.88707	38	1.08647
5	917.1	525.0 0.0227	5,03	1	1,39182	16	4.98997	15	0.95918	58	0.96143	27	0.93965	33	1,00124	40	1.10B65	43	0.89233
6	919.2	524.1 0.0228	5.02							21	1.02528	28	0.94115						

						RE DATAD	EGREES FAHR	ENHE   T		
FRAHE	r5A	PTC	SK[N[1]	SKINEST	5K[M[3]	SKINI41	SK[N(5] H	ODEL-STING FE	3414-43CB	TCH
1	1.21	1655.50	1618.1	74-1	83.2	75.0	150.4	176.9	691.9	507.2
2	1.21	1691.29	1661.3	74.6	75.4	76.7	150.0	212.0	656.6	517.2
s	1.21	1691.29	1659.7	75,.0	75.9	76.0	150.0	241.0	634.7	521.5
4	1.21	1677.61	1642.3	75.4	75.0	86.2	151.7	265.3	615.6	527.6
<b>-</b>	1.21	1628.66	1602.3	78.0	76.7	82.4	151.3	287.9	009.1	522.8
6	1.21	1559.71	1533.9	80.6	78.0	85.0	152.2	305.2	600.0	518.5

TO P47/PTC PORT-22 NO PSH/PSA NO PSH/PSA NO PSH/PSA NO PSH/PSA NO PSH/PSA NO PSH/PSA NO PSH/PSA NO PSH/PSA FR PTC 1.41 5 0.87078 6 0.88800 11 0.95557 16 0.99955 23 0.97150 29 0.91541 3411.85693 35 0.72098 1 1663.4 507.2 0.0175 4 0.82897 7 0.90584 12 1.01549 17 0.95939 24 1.01103 30 0.96704 41 1.70523 36 0.92943 2 1687.1 517.6 0.0174 3 1.49933 8 0.94409 13 1.02250 18 1.01676 25 0.99764 31 0.99700 4211.16647 37 1.27394 3 1689.7 522.4 8.8174 1.44 2 2.64805 9 1.02314 14 0.98170 19 1.02258 26 0.96130 32 0.96130 39 1.58750 56 1.06967 4 1679.2 522.8 0.0174 1.45 1.45 1 2.61936 10 0.99190 15 1.03461 20 1.02378 27 1.00784 33 0.96513 40 5.54599 43 1.56818 5 1628.8 523.2 0.8177 21 1.02696 28 8.99955 1.45 6 1561.8 514.3 0.0180

MIND TUNNEL TEST CONDITIONS..... Q 10.284 PT 89.965 PS 1.214 R/L 10.6 MACH 3.480 TEMP 101.9 MODEL ATTITUDE...... ALPHA 0.08 BETA 8.00 ROLL 0.0 AVERACE MODEL/NOZZLE PARAMETERS.. PTC= 1650.3 TC= 518.8 PTC/PSA= 1359.92 PSMI22]/PSA= 1.1845 HEATER PARAMETERS.... HEATER TOTAL PRESSURE= 2100. HEATER TOTAL TEMPERATURE= 613.

		**			TEMPERATU	RE DATAD	EGREES FAH	RENFETT		*****
FRAME	PSA	PTC	SKIN(1)	SKIN[2]	2k17[3]	SKIN(4)	SKINESI !	HODEL-STING	FEEDER-PIPE	Tg⊶
1.	1.21	1240.76	1215.0	144.8	158.7	170.8	150.9	257.1	717.0	£14+1
2	1.21	1252.87	1228.7	142.6	155.6	168.2	150.0	278.3	o82.8	521.9
. 3	1.21	1273.92	1248.1	141.8	153.9	167,3	151.3	298.3	658.1	527.6
4	1.21	1288.13	1267.1	139.2	151.3	165,6	152.2	314.7	639,0	529.3
,5	1.21	1312.34	1285.0	137.9	148.7	164.3	151.5	329.0	626.0	532.3
	1.21	1311.29	1287.6	139.2	147.8	164.3	152.2	343.3	617.7	534.1

FR PTC 1C P47/PTC PORT-22 NO PSM/PSA NO PSM/

WIND TUNNEL TEST CONDITIONS..... Q 10.290 PT 90.019 PS 1.214 R/L 10.6 MACH 3.480 TEMP 101.5 MODEL ATTITUDE................... ALPHA 0.02 BETA 0.00 POLL 0.0 AVERAGE MODEL/NOZZLE PARAMETERS.. PTC= 1280.0 TC= 527.1 PTC/PSa= 1054.18 PSM1221/PSa= 1.1361 HEATER PARAMETERS....................... HEATER TOTAL PRESSURE= 1600. HEATER TOTAL TEMPERATURE= 526.

		•-			TENPERATU	RE DATAD	EGREES FAR	HRENHEIT		
FRAME	PSA	PTC	SKIN[1]	SKINI21	SKIN[3]	SKIM(4)		HODEL-STING		*C+
1	1.21	777.08	761.3	150.4	161.7	175.6	151.3	238.0	786.8	497,4
2	1.21	792.34	776.0	147.4	168.0	173.0	152.2	255.8	758.0	502.0
3	1.21	809.71	795.5	145.7	157.8	170.4	152.2	272.7	718.3	511.1
4	1.21	822.34	807.6	143.5	155.6	169.1	151.7	286.3	692.7	515.9
5	1.21	838.13	821.8	143.5	153.9	167.8	150.0	303.0	672.4	520.2
6	1.21	848.13	831.3	143.1	152.2	166.9	151.7	315.2	ه.55	522.4

FR PTC TC P47/PTC PORT-22 NO PSM/PSA NO PSM/

HIND TUNNEL IFST CONDITIONS..... 0 10.291 PT 90.027 PS 1.214 R/L 10.6 MACH 3.480 TEMP 101.5

MODEL ATTITUDE...... ALPHA 0.02 BETA 0.00 POLL 0.0

AVERAGE HODEL/MOZZLE PARAMETERS.. PTC= 813.9 TC= 510.7 PTC/PSA= 670.23 PSH(22)/PSA= 1.0324

HEATER PARAMETERS.... HEATER TOTAL PRESSURE= 1100. HEATER TOTAL TEMPERATURE= 620.

					TEMPERATU	RE DATA	EGREES FAHRE	ENHETT	******	
FRAME	PSA	PTC	SKIN[1]	SKIN151	SKINE31	SKIN[4]		DEL-STING FE		TCH
1	1.21	366.03	360.8	151.3	163.4	177.3	152.2	209.4	660.5	440.9
<b>'5</b>	1.21	374.97	369.7	147.8	160.8	174.3	152.6	219.8	830.6	455.2
3	1.21	384,45	379.2	146.5	158.7	171.7	152.6	231.5	692.4	466.0
•	1.21	391.29	385.5	144.8	156.1	169.1	150.4	242.8	776.8	474.3
5	1.21	396.55	390.8	143.9	153.9	_166.9	148.7	253.2	755.2	481.6
. 6	1.21	401.82	39 <u>7.1</u>	142.6	152.6	165.6	150.9	263.1	735.7	486.4

FR	PTC	TC P47/PTC	PORT-22 NO PSH/PSA	NO PSH/PSA NO	PSH/PSA NO PSH/P	SA NO PSH/PSA	NO PSH/PSA	IO PSH/PSA NO PSH/PSA
, 1	365.0	440.4 0.0396	1.21 5 0.85238	6 0.88423 11	0.96514 16 6.999	54 23 0.96387	29 8.91481 3	4 8.31996 35 0.73134
2	373,9	454.8 0.0390	1.22 4 0.00460	7 0.89952 12	1.01037 17 8.935	64 24 1.09336	38 9.96459 4	11 0.89825 36 0.93647
3	183.9	466.5 8.0382	1.22 3 1.47479	8 0.94603 13	1.01483 18 1.005	27 25 0.98744	31 8.99572 4	2 5.86959 37 1.85638
4	390.2	473,8 0.0378	1.22 2 2.56390	9 1.01610 14	0.98425 19 1.010	37 26 0.95431	32 0.95558 3	9 0.88232 38 1.03203
5	5.5ء	481.6 0.0375	1.22 1 2.59473	10 0.98999 15	1.02638 20 1.814	19 27 <b>0.99</b> 890	33 0.95758 4	0 1.61812 43 p.85684
_ 0	401.3	480.0 0.0371	1,22		21 1.018	02 28 0.98680	)	•••

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		ف م			TEMBEDATI	OF BATAB	EGREES FAHR	ENHETT		
FRAME	PSĄ	PTC	SKIN[1]	SKIN(2)	2KIN[3]	SKIN[4]	SKIN(5) H	ODFL-STING F	EEDER-PIPE	TCm
1	19.61	10,21	11.3	88.9	67.1	85.8	150.0	85.8	73.3	62.4
5	19.62	18.21	11.3	90.2	88.0	87.1	152.6	85.8	73.3	82.5
3	18.60	9,68	11.3	91 <u>.</u> 5	88.9	88.4	151.7	86.7	74.1	67. <sup>\$</sup>
4	10.62	10.74	11.3	91.5	89,3	88,4	150.0	87.1	74.1	84-1
>	10.60	9.68	11.3	91.9	89.7	89.7	151.5	87.6	75.0	63.7
6	10.62	10.21	11.3	91.5	89.7	89.7	147.8	67.1	74.1	84.5

FR	PTC	TC P47/PTC	PORT-22	NO	PSH/PSA	NB	PSH/PSA	NO	PSM/PSA	NO	PSH/PSA	NG	PSH/PSA	NO	PSH/PSA	NO	PSH/PSA	NO	PSH/PSA
1	10.7	84.1 1.2090	9,96	5	0.99835	6	0.98377	11	0.95607	16	0.97757	23	0.96008	29	1.01840	34	1,35957	35	1.04974
2	11.8	85.0 1.1011															0.91051		
3		8>.4 1.2714	9,98	3	0.88645	8	0.99143	13	0.97065	18	0.99580	25	0.94987	31	0.99325	42	0.97539	37	1.01021
4	10.7	8>.8 1.2100	9,98	2	1.08911	9	0.98414	14	0.97393	19	0.99288	26	0.96518	32	0.98195	39	1.91525	36	0.95170
5	10.7	85.8 1.2090															0.99686		
6	10.2	85.8 1.2714	9,98					_	-				0.99361						

MIND TUNNEL IFST CONDITIONS..... Q 6.049 PT 17.098 PS 10.612 R/L 5.1 MACH 0.903 TEMP 101.4 MODEL ATTITUDE...... ALPHA 0.02 BETA 0.80 ROLL 0.0 AVERAGE MODEL/MOZZLE PARAMETERS... PTC= 18.7 TC= 85.3 PTC/PSA= 1.01 PSH(22)/PSA= 0.9402 HEATER PARAMETERS..... HEATER TOTAL PRESSURE= 0. HEATER TOTAL TEMPERATURE= 0.

				*****	TEMPERATU	RE DATAD	EGREES FAHREN	HETT	******	******
FRAME	PSA	PTC	SK[N[1]	SKIN[2]	SK[4(3)	SKINE41		FL-STING FEE		TCH
1	7,47	7.05	7.6	92.3	90.6	90.2	152.6	<b>90.2</b>	78.1	89.7
5	7.42	6.53	7.6	91.5	90.2	89.7	152.6	89.7	77.6	89.7
3	7.43	6.53	7.6	89.7	89.5	89.7	152.6	89.7	77.0	49.7
4	7,41	0.53	7,6	91.0	90.6	89.7	151.3	90+2	78.9	90.2
5	7.43	6.53	7,6	89.7	89,7	89.7	150.4	A9.7	77.2	89.7
٥	7.45	6,>3	7.6	89.7	89.3	89.7	150.9	89.7	77.6	90.2

FR	PTC	TC P47/PTC	PORT-22 N	0 PSH/PSA	NO PSM/PSA	NO PSM/PSA	A NO PSM/PSA	NO PSM/PSA	NO PSH/PSA	NO PSM/PSA NO PSM/PSA
1	7.1	91.5 1.6904	6,84	5 0.90166	6 1.00207	11 0.97242	2 16 1.00675	23 0.91466	29 1.05046	34 1,93963 35 1,15972
2	7.1	91.9 1.6876	6,82	4 0.78667	7 0.97033	12 0.96149	9 17 1.05306	24 1.03467	38 1.01245	41 0.75494 36 1.80259
3	6.5	91.0 1.8252	6.83	3 0.95733	8 1.00 <u>8</u> 51	13 0.94016	6 18 1.01716	25 0.92039	31 0.98958	42 1.35535 37 1.03017
4	7.1	92.3 1.6876	6,81	2 1.38020	9 4.99863	14 1.00259	9 19 1-01456	26 0.99115	32 0.99843	39 0.74713 38 0.93704
5	7.1	91.9 1.6890	6.82	1 1.35066	10 8.97814	15 1,80623	3 20 1.08259	27 1.01872	33 g.98958	40 0.77263 43 0.88696
6	7.1	91.9 1.6984	6.82				21 0.98334	28 1.03069	•	

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					TEMPERATU	RE DATAE	EGREES FAHR	ENETT		
FRAME	PSA	PTC	SKIN(1)	5K1N(2)	SKIM[3]	SKIN[4]	SKINIST P	COUPL-STING FE	ENER-PIFE	TCH
1	5.18	4,42	5.5	107.5	113.6	117,5	152.2	122.5	245.2	:33.1
2	5.12	4,42	4,9	107.5	112,3	116.2	152.6	171.0	245.2	132.7
3	5.15	4.42	4.9	107.5	111.0	114.0	150.4	121.4	244.5	129.6
4	5.12	4,42	4,9	107.5	111.9	111-9	148.7	120.1	244.5	129.2
5	5.15	4,42	5.5	104.9	199.7	119.1	150.0	118.4	244.1	126.8
6	5.16	4.42	4.9	105.8	107.5	110.1	146.3	116.8	244,9	128.3

FR	PTC	TC	P47/PTC	PORT-22	NO	PSH/PSA	NO	PSM/PSA	NO	PSH/PSA	NO	PSH/PSA	NO	PS4/PSA	ĸO	PSH/PSA	NO	PSM/PSA	NO	PSM/PSA
1	3.9	134.4	2,8893	4,98	5	0.87602	6	0.90006	11	0.97444	16	0.91734	23	0.95565	54	0,90832	34	2.83090	35	0.96767
2	4,4	134.4	2,5498	4,98	4	0.78811	7	0.93462	12	0.93387	17	0.90457	24	1.00223	39	0,98495	41	0.71223	36	1.14047
3	4,9	131.4	2.2744	4.98	3	1.02027	8	0.99096	13	n.94589	18	0.93837	25	0.91734	31	1.03454	42	2.28621	37	1.05763
4	4.4	130.9	2,5453	4,98	2	1.35609	9	0.98345	14	0.95716	19	0.97293	26	0.86578	32	1.01200	39	0.70772	36	1.07361
5	4,4	130.1	2,5453	4,97	1	1.38389	16	0.97594	15	0.95941	29	0.95866	27	8.93537	33	0.99923	40	9.71674	43	0.77234
6	4.4	130.1	2,5498	4,99							21	1.01876	28	0.94138						

					TEMPERATU	IRE DATAD	EGREES FAI	HRENHEIT		
FRAHE	PSA	PIC	SKIN[1]	2KINES!	SK[N[3]	SKINI41			FFEDER-PIPE	TCH
1	1.21	-0.29	2.3	191.0	106.7	112.3	150.9	117.1	637.7	126.2
2	1.21	-0.29	2.3	98.4	104.9	110-1	150.0	114.9	636.0	125.7
Š	1.21	-0.29	2.3	97.5	103,6	108.8	158.4	114.9	636.0	125.7
4	1.21	-0.29	1.8	98.0	102.7	107.5	147.4	114.5	636.8	126.6
5	1,21	-0.29	2.3	95.8	101.4	106.7	148.3	114.0	636.4	126.2
6	1,21	-8.29	2.3	95.8	100.6	184.9	148.3	113.6	636.8	126.2

FR PTC IC P47/PTC PORT-22 NO PSH/PBA NO PSH/PSA NO PSH/

WIND TUNNEL TEST CONDITIONS..... Q 10.288 PT 90.002 PS 1.214 R/L 10.7 MACH 3.480 TEMP 99.1 MODEL ATTITUDE....... ALPMA 0.02 BETA 0.00 ROLL 6.5 AVERAGE HODEL/NOZZLE PARAMETERS.. PTC= 0.1 TC= 127.4 PTC/PSA= 0.05 PSM(22)/PSA= 1.0014 HEATER PARAMETERS......... HEATER TOTAL PRESSURE= 0. HEATER TOTAL TEMPERATURE= 0.

	24 AUGUST	1973		MSFC PLUME	TRISONIC I TECH OLDGI	iing Tunne Test N	L HUNTSVIL OZZLE CALIBR	ATIO PBASE		₹£ST 575	RUN 501 
	- <del>-</del>		<del></del> -				ATURE DATA		HRENHETT		
-	FRAME	PSA	PTC	SKIN[1]		SKIN[3	SKINI41	2KIN[2]		FEEDER-PIPE	ŢCH
	<u> </u>	0.58	485.00	542.0	173.3	165.	0 121.0	152.6	294.8	733.0	4/5.
	2	0.59	491,85	546.9	174.2	165.	4 121.8	152.6	306.2	713.2	480
	FRANE	PIC	PSC		C PSN(44	11/PTC_PSN	1(45)/PTC PSN	1[461/PTC PS	NE471/PTC PS	N(461/PTC PSN	IE491/PTC
	1	485.53		47	71.2 0.	12435	0.01178	0.01095	0.01124	0.03215	0.00000
	5	483.95		47	74.3 0.	12455	0.01182	0.01099	0.01132	0.03226	9 <u>• 0 0 0</u> 0 0
	33	485.00	min and the	47	17.4 8.	12511	0.01165	0.01103	0.01134	0.03233	0.00000
	4	486,58		47	77.8 0	12470	0.01181	0.01099	0.01128	0.03229	0.00000
	5	488.69			79.1 0.	,1 478	0.01180	9.01098	0.011 9	0.03 9	0.00000
	6	489,74	7.27	48	30.4 8	2 12431	0.01178	0.01096	2 0.01127	22 0.83215	0.00000
	TUNNEL STA	T C PRESSUR	RE= 0.585	MEATE	R TOTAL PI	RESSURE=	500. HEA	TER TOTAL T	EMPERATURES	620. ALPH	M# 0.00
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				PLUME TE	CHNOLOGN TE	TUNNÉL ST NC	TE CATIBI	RATION PHASE		TEST 575	RUN 502/
	FRAME	PSA	PTC	SK[N[1]	SKINISI	TEMPERATE Skin(3)	RE DATA Skint4)	DEGREES FA	HRENHETT	FEEDER-PIPE	<u>T</u> CH
<del></del>	12	0.47	950.79	9 1.4		171.1	3	5	3		500.7
·		0.49	966.58	945.1	179.5	171.1	152.2	152.6	329.1	681.1	509.9
	FRAME	PTC			<u> </u>	<del> </del>					
	1	948.69	PSC	TC 501.6			<u>1/PTC PSN</u> 01177			NE481/PTC PSN	
	?	954.48		504.6			01174	0.01098	0.01135	0.03206	0.00000
	3	948,16		505.5			01185	0.01105	0.01143	0.03221	0.00000 0.00000
	4	957.64		508.2	2 0.123	41 0.	01175	0.01094	0.01133		0.00000
		962,90		589.0	0.123	15 0.	01171	0.01091	0.01131	0.03189	0.00000
	6	958.69		509.9	0.123	90 0.	01178	0.01098	0.01138	0.03207	0.00000
<u> </u>					<del></del> -				<del></del>		
				SI AT D T	TOTAL PR SSI	JR = 1000	• н А	T R TOTAL T	MP RATHE # /		
	TUNN L STAT		= 0.480 E	E. E	E	E	E	£	E E	DOU. ALPHA	\ <del>=</del> 0.00
				E. E.		E	E	£	E E	DOU. ALPHA	** 0.00
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				Ē. E		E			EE	alpha	

		1973			ISONIC HIND T CHNOLOGY TEST		TS ILLE, ALABAM ALTBRATION PHAS		TEST 575	RUN 503/
- <u></u> .	FRAME	 PSA	PTC	SKIN(1)	ZKINISI SK	MPERAZURE DA	TADEGREES F IN(4) SKIN(5	ARRENHETT		TCH
	1	.37	13 8.16	1228.4	81.4					
	<del></del>	0	0				82.2 152.		3	48B.R
		0.38	1327,64	1246.5	80.9	81.8	84.9 152.	2 180.4	708.4	499.4
								- · · · • • • • • • • • • • • • • • • •		· <del>-</del>
	FRAME	PTC	PSC		PSN(443/PTC	PSN[45]/PTC	PSN(461/PTC P	SNE471/PTC PS	N(48)/PTC PSI	N{49}/PTC
	1	1317.11		467.				0.01123	0.03177	0.00000
	2	1312.37		491.9				0.01133	0.03201	0.00000
	3	131 . 8		95.0	0.12 06			0.01131	0.03199	0.00000
	4	4 4 1334,48		496,3	4			0.01117	0.03163	0.00000
	5	1320.27		497,2		0.01172	,	0.01132	0.03200	0.00000
·	6	1327,11	6	499.4		0.01169		0.01127	0.03188	0.00000
					0,12040	0,02107	0.01009	0.01127	8100100	0.00000
	TUNNEL STAT	IC PRESSUI	RE= 0.379		OTAL PRESSUR		SEATED TOTAL	TEMBERATURE .	. 70	
<del></del> -	TOIL TOTAL	10 11/2300	10- 010/9	HEATER I	DIAL PRESSUR	E- 1400.	HEATER TOTAL	SERPERATURES (	SOU. ALPE	A= 0.88
		<del></del>						<del></del>		

FRIME PTC PSC IC PSK[41] SRIMINI SKIMI	· · · · · · · · · · · · · · · · · · ·	24 AUGUST	1 73		MSFC PLUME	TRISONIC TECHNOLO	WIND TUNK OGY TEST	NOZZLE CALI	ILLE, ALABAMA BRATION PHASE		TEST 575	RUN 503/0
1 0.37 1308.10 1228.4 81.4 81.8 82.2 152.6 138.1 750.2 488.6 2 0.38 1327.64 1246.5 80.9 81.8 84.9 152.2 160.4 708.4 499.4  FRAME PTC PSC IC PSN[44]/PTC PSN[45]/PTC PSN[46]/PTC PSN[47]/PTC PSN[48]/PTC PSN[47]/PTC 1 1517.11 487.0 0.12328 0.01165 0.01085 0.0123 0.03177 0.00000 2 1312.37 491.9 0.12396 0.01173 0.01093 0.01133 0.03201 0.00000 3 1314.48 495.0 0.12496 0.01173 0.01093 0.01131 0.05199 0.00000 4 1334.46 496.3 0.12273 0.0159 0.01079 0.01117 0.05163 0.00000 5 320.27 497.2 0.2382 0.0 72 0.0 09 0.0 32 0.03200 0.000000 6 1327.11 499.4 0.12348 0.01169 0.01089 0.0127 0.03168 0.000000 1 11 1 1 1 1 1 1 1 1 1 1 1 1 1				270	CKINI 1	SKIMI2	TEMPE	ERATURE DATA	DEGREES FA	HRENMEIT	FEEDER-PIPE	TCH
PRAME PTC PSC TC PSN(44)/PTC PSN(45)/PTC PSN(47)/PTC PSN(48)/PTC P												488.8
FRAME PTC PSC IC PSN(44)/PTC PSN(45)/PTC PSN(40)/PTC P												499.4
1 1317,11 487.0 0.12328 0.01165 0.01085 0.01123 0.03177 0.00000 2 1312.37 491.9 0.12396 0.01173 0.01093 0.01133 0.03201 0.00000 3 1314,48 495.0 0.12406 0.01173 0.01093 0.01131 0.03199 0.00000 4 1334,48 496.3 0.12273 0.01159 0.01079 0.01117 0.03163 0.00000 5 320,27 497.2 0.2382 0.0 72 0.0 09 0.0 32 0.03200 0.000000 1 1 11 11 1 11 11 11 6 1327,11 499.4 0.12348 0.01169 0.01089 0.01127 0.03168 0.00000  TUNNEL STATIC PRESSURE= 0.379 HEATER TOTAL PRESSURE= 1400. HEATER TOTAL TEMPERATURE= 630. ALPHA= 0.000		<u>-</u> .							·····		<u>.</u>	· ·
2 1312.37 491.9 0.12396 0.01173 0.01093 0.01133 0.03201 0.00000 3 1314,48 495.0 0.12406 0.01173 0.01093 0.01131 0.03199 0.00000 4 1334,48 496.3 0.12273 0.01159 0.01079 0.01117 0.03163 0.00000 5 320.27 497.2 0.2382 0.0 72 0.0 09 0.0 32 0.03200 0.00000 6 1327.11 499.4 0.12348 0.01169 0.01089 0.01127 0.03188 0.00000  TUNNEL STATIC PRESSURE= 0.379 HEATER TOTAL PRESSURE= 1400. HEATER TOTAL TEMPERATURE= 630. ALPHA= 0.00		FRAME	PTC	PSC		C PSNI	(44)/PTC PS	SN(45)/PTC P	SN[46]/PTC PS	N[47]/PTC PS	N(48)/PTC PSA	NE491/PTC
3 1314,48 495,0 0.12406 0.01273 0.01093 0.01131 0.03199 0.00000 4 1334,48 496,3 0.12273 0.01159 0.01079 0.01117 0.03163 0.00000 5 320,27 497,2 0.2382 0.0 72 0.0 09 0.0 32 0.03200 0.00000 6 1327.11 499.4 0.12348 0.1169 0.01089 0.01127 0.03188 0.00000  TUNNEL STATIC PRESSURE* 0.379 HEATER TOTAL PRESSURE= 1400. HEATER TOTAL TEMPERATURE* 630. ALPHA* 0.00		1	1317,11		48	7.0	0.12328	0.01165	0.01085	0.01123	0.03177	0.00000
4 1334,48 496.3 0.12273 0.01159 0.01079 0.01117 0.03163 0.00000  5 320.27 497.2 0.2382 0.0 72 0.0 09 0.0 32 0.03200 0.00000  1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		2	1312.37		49	1.9	0.12396	0.01173	0.01093	0.01133	0.03201	0.00000
4 1334,48 496.3 0.12273 0.01159 0.01079 0.01117 0.03163 0.00000  5 320,27 497.2 0.2382 0.0 72 0.0 09 0.0 32 0.03200 0.00000  1 11 11 11 11 6 1327.11 499.4 0.12348 0.01169 0.01089 0.01127 0.03188 0.00000  TUNNEL STATIC PRESSURE= 0.379 HEATER TOTAL PRESSURE= 1400. HEATER TOTAL TEMPERATURE= 630. ALPHA= 0.00		3	1314,48		49	5,0	0.12406	0.01173	0.01093	0.91131	0.03199	0.00000
5 320,27 497,2 0.2382 0.0 72 0.0 09 0.0 32 0.03200 0.00000 6 1327.11 499.4 0.12348 0.01169 0.01069 0.01127 0.03168 0.00000  TUNNEL STATIC PRESSURE= 0.379 HEATER TOTAL PRESSURE= 1400. HEATER TOTAL TEMPERATURE= 630. ALPMA= 0.00								0.81159	0.01079	8.01117	0.03163	0.00000
6 1327.11 499.4 0.12348 0.01169 0.01089 0.01127 C.03188 0.00000  TUNNEL STATIC PRESSURE= 0.379 HEATER TOTAL PRESSURE= 1400. HEATER TOTAL TEMPERATURE= 630. ALPHA= 0.00	· - · - · · · · · · · · · · · · · · · ·										0.03200	0.00000
TUNNEL STATIC PRESSURE = 0.379 HEATER TOTAL PRESSURE = 1400. HEATER TOTAL TEMPERATURE = 630. ALPHA = 0.00												
			1	7	49	19.4	1 0.12348	0.01169	0.01089	0.01127		
		6	1 1327.11		49	19.4	1 0.12348	0.01169	0.01089	0.01127		
		6	1 1327.11		49	19.4	1 0.12348	0.01169	0.01089	0.01127		
		6	1 1327.11		49	19.4	1 0.12348	0.01169	0.01089	0.01127		
		6	1 1327.11		49	19.4	1 0.12348	0.01169	0.01089	0.01127		
		TUNNEL STA	1 1327.11		49	19.4	1 0.12348	0.01169	0.01089	0.01127		
		TUNNEL STA	1 1327.11		49	19.4	1 0.12348	0.01169	0.01089	0.01127		
		TUNNEL STA	1 1327.11		49	19.4	1 0.12348	0.01169	0.01089	0.01127		
•		TUNNEL STA	1 1327.11		49	19.4	1 0.12348	0.01169	0.01089	0.01127		
•		TUNNEL STA	1 1327.11		49	19.4	1 0.12348	0.01169	0.01089	0.01127		
		TUNNEL STA	1 1327.11		49	19.4	1 0.12348	0.01169	0.01089	0.01127		
•		TUNNEL STA	1 1327.11		49	19.4	1 0.12348	0.01169	0.01089	0.01127		

	1973		MSFC TR	ISONIC WIND TUNI CHNOLOGY TEST	NEL HUNTSVIL NO LE CALIBI	LLE, ALABAMA RATION PHASE		TEST 575	ี R <sub>ป</sub> N 504/
FRAME	PSA	PTC	SKIN[1]	SKIN[S] SKIN	FRATURE DATA	DEGREES FA	HRENHETT	FEEDER-PIPE	TCH
1	0.38	1689.22	1549.6	164.5 185	5.2 177.7	7 147.8	239.8	692.5	511.2
3	5.40	1720.27	1568.6	164.1 184	178.6	5 150.9	273.2	662.2	520.0
FRAME	PTC	<u> </u>				N[46]/PTC P			[491/PTC
11	1672.90		509.9		8.01169 8.01169	0.01091 S	0.01130 S	0.03181	8+00000
2	1700.27		514.8	0.12144	0.01153	0.01076	0.01117	0.03139	0.00000
3	1701.85		516.5	0.12168	0.01155	0.01079	0.01119	0.03148	0.0000
4	1691,85		517.8	0.12257	0.01164	0.01088	0.01128	0.03171	0.00000
5	1702.37		519.6	0.12217	0.01159	0.01084	0.01124	0.03159	8-00000
6	1715.00		519.2	0.12156	0.01154	0.01977	0.01116	0.03142	0.00000
TUNNEL STAT	TIC PRESSU	RE= 0.390	HEATER 1	OTAL PRESSURE=	1800. HEA	ITER TOTAL TE	EMPERATURE= 6	648. ALPH	A= 0.00
TUNNEL STA	TIC PRESSU	RE= 0.390	HEATER 1	OTAL PRESSURE*	1800. HEA	TER TOTAL T	EMPERATURE= 6	ALPH	A= 0.00
TUNNEL STA	TIC PRESSU	RE= 0.390	HEATER 1	OTAL PRESSURE	1800. HEA	TER TOTAL TE	EMPERATURE= 6	640. ALPH	A= 0.00
TUNNEL STA	TIC PRESSU	RE= 0.390	HEATER 1	OTAL PRESSURE	1800. HEA	ATER TOTAL TI	EMPERATURE= 6	640. ALPH	A= 0.80
TUNNEL STA	TIC PRESSU	RE= 0.390	HEATER 1	OTAL PRESSURE	1800. HEA	ATER TOTAL TI	EMPERATURE= 6	540. ALPH	A= 0.00
TUNNEL STA	TIC PRESSU	RE= 0.390	HEATER 1	TOTAL PRESSURE	1800. HEA	ATER TOTAL TI	EMPERATURE= 6	SAD. ALPH	A= 0.80
TUNNEL STA	TIC PRESSU	RE= 0.390	HEATER 1	OTAL PRESSURE	1800. HEA	ATER TOTAL TO	EMPERATURE= 6	540. ALPH	A= 0.00
TUNNEL STA	TIC PRESSU	RE= 0.390	HEATER 1	OTAL PRESSURE	1800. HEA	ATER TOTAL TI	HPERATURE= 6	SAD. ALPH	A* 0.80

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	24 AUGUST	1973		MSFC LUME P	TRISONIC WIN TECHNOLOGY TO	TUNNEL HUNT OST NOZZLE CA	SVILLE, ALABAMA LIBRATION HASE		TEST 575	RUN 505/0
	FRAHE	PSA_	PTC	SK[N[1]		TENPERATURE DA	TADEGREES FA	HRENHEIT	FEEDER-PIPE	ТСН
	1	0.37	1942.90	1769.4	221.7		38.0 147.8	310.6	679.3	533.7
	2	0 • 40	1966.58	1782.8	221.3	246.8 2	39.3 148.2	339.2	653.8	540.7
	FRAME	PTC			TCPSN1441/1	PTC PSN(45)/PTC	: PSN(46)/PTC PS	SNE471/PTC PSA	1(48)/PTC PSN	[491/PTC
	1	1937.64		5.	33.7 0.12	215 0.01163	0.81087	0.01127	0.03166	0.69000
		1943,95		5.	36.3 0.12	201 0.01162	0.01086	0.01127	0.0316?	0.00000
<del></del>	3	1960.79		5	37.2 0.12	127 0.01154	0.01878	0.01120	0.03142	0.00000
	4	1966,56		5	38.5 0.12	101 0.01153	0.01076	0.01118	0.03138	0.00080
	5	1965.01		5	39,4 0,12	136 0.01156	0.01079	0.01121	0.03146	0.0000
	6	1960.79		5.	39.4 0.12	173 0.01160	0.01083	0.01124	0.03157	0.0000
	TUNNEL STA	ATIC PRESSU	JRF= 0.386	S HEAT	ER TOTAL PRES	SURE= 2100.	HEATER TOTAL 1	EMPERATURE:	S40. ALPH	A= 0.00
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	24 100001			PLUME TECH	OLUGY TEST	NUZZLE CALIB	BRANG POITER			
	FRAME	-SA		SKI'[1] SK!	TEHP	ĘpātūÞE DATÁ≕ (3) SKIN[4	DEGREES FA 1 SKIN(5)	HRENHEIT	FFEDER-PIPE	TCH
			551.55			5.0 106.0		152.6	777.9	464.
	5	0.42	540.79			6.9 109.				473,
	FRAME	PTC	PSC	TC P	SN[44]/PTC P	SN[45]/PTC FS	N[46]/PTC PS	N(471/PTC PS	N[48]/PTC PSM	[49]/PTC
	1	554,48	1886.68	464.2	0.17508	0.02157	0.02714	0.02090	0.05286	0.00000
·	5	549,74	1889.21		0.17513	0.02161	0.02019	0.02093	0.05295	0.00000
	3				0.17427	0.02147	0.02008	0.02078	0.05256	0.00000
		551.32	1888.68		0.17610	0.02174	0.02033	0.02104	n.05323	0.00000
	4	545.00			0.17589	0.02173	0.02031	0.02105	0.05315	0.00000
	5	543,95	1888,15		0.17485	0.02161	0.02020	0.02093	0.05282	0.80000
	6	546.06	11.85	473.8	0,17403	0.02101	0105050	04440		
	TUNNEL STA	ATIC PRESSU	RE# 0.424	HEATER TOI	AL PRESSURE	625. HE	ATER TOTAL T	EMPERATURE=	620. ALPI	fA= 0.00
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					ERATURE DATA	DEGREES FA	A PREXIMENTALL		
FRA E	- 5-	F*c\$	Kij (1) ŞK	[+[5] 2×1/	[3] SKI.:[4	SKINI5	HODEL-STING	FEEDER-PIPE	TCH
1	2,43	1003.43	975.0 1	(65.0 <u>1</u> F)	3.4 175.	5 147.8	228.3	717.6	5;6.
<u> </u>	3.44	980.69	962.7 1	18:	3, <u>u</u> 177,	3 152.2	259.1	682.5	511.
FRAME	PTC	PSC	TC =	FSN[44]/PTC PS	St.[45]/PTC PS	\[46]/PTC PS	SN[47]/PTC PS	V[48]/PTC P5N	:[49]/¤TC
1	986.66	1686.05	506.4	0.17725	0.02195	0.02067	0.02132	0.05420	0.00000
2 .	987.11	1886,58	508.2	0,17625	0.02183	0.02055	0.02122	0.05391	0.00000
. 3	991.85	1686,58	509.0	0.17511	0.02171	0.02042	0.82109	0.05361	0.00000
4	980,27	1886.58	508,6	0,17656	0.02192	0.02060	0.02139	0.05468	0.00000
5	988,16	1885,52	511.2	0.17535	0.02174	0.02044	0.02114	0.05365	0.00000
•									
6	986.06	13,43	511.2	0.17563	0.02179	0.02049	0.02117	0.05376	9.00000
	986.06	13,43	511.2	0.17563	0.02179	0.02049	0.02117	0.05376	0.00000
	986.06			0.17563 AL PRESSURE=			0.02117 EMPERATURE= (		9.60000 A= 0.00
TUNNEL STA									
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		1973		PLUME TEC	SONIC WIND T HNOLOGY TEST	NOZZLE CA	SVILLE, ALABAMA Libration Phase	_	TEST 575	HÚN 508/
	FRAME	PSA	PTC	SKIN(1) S			YADEGREES FA N(4) SKIN(5)	HRENHEIT MODEL-STING	FEEDER-PIPE	ТСН
·	. 1	0.37	1478.74	1372.8	110.4	116.0 1:	13.0 150.0	173.8	441.3	419.7
		0.37	1487.16	1376.7	110.4	110.4 1	14.4 147.8	207.6	471.2	446.1
	FRANE	PTC	PSC	TC	PSN(441/PTC	PSH1451/PTC	PSN(46)/PTC PS	N[47]/PTC PS	NI481/PTC PSV	(491/PTC
	1	1477.16		419.7	0.17312	0.02127	0.02003	0.02072	0.05291	0.00000
	2	1474,52		427,6	0.17378	0.02137	0.02010	0.02080	0.05310	0.00000
	3	1470.31	:40	432.0	0.17392	0.02145	0.02016	0.02088	0.05325	0.00000
		1488.21		435.6	0.17177	0.02116	0.01991	0.02061	0.05254	0.00000
	5	1488,21		440.8	0.17224	0.02125	0.01996	0.02067	0.05272	0.00000
	6	1487,16		444.4	0.17249	0.02130	0.02000	6.02073	0.05275	0.00000
	TUNNEL STA		E= 0.371		OTAL PRESSUR		HEATER TOTAL T	EMPERATURE= (		A= 0.02
	TUNNEL STA		E= 0.371					EMPERATURE= (		
	TUNNEL STA		E* 0.371					EMPERATURE = (		
			E* 0.371	HEATER T	OTAL PRESSUR	E= 1600.			525. ALPH	
			E= 0.371	HEATER T	OTAL PRESSUR	E= 1600.	HEATER TOTAL T		525. ALPH	<u> </u>

Notes that the second

	27 AUGUST	1973		MSFC PLUME	TRISONIC WIN	D TUNNEL EST NOZZ	HUNTSVIL LE CALIBR	LE, ALABAMA ATION PHASE		TEST 575	RUN 509/1
	FRAME	PSA	PTC	SK[N[1]	SKIN[2]	-TEMPERATU SKIN(3)	RE DATA Skini4)	-DEGREES FAR Skin(5)	RENHETT	FEEDEP-PIPE	TCh
	1	0.71	1885.05	1712.0	77.8	79,2	80.5	152.6	162.8	684.2	512.6
	s	0.73	1681.37	1708.5	80.0	80,9	83.6	152.6	216.4	638.4	513.9
	FRAME	PTC	PSC	· · · · · · · · · · · · · · · · · · ·	FC PSN[441/	PTC PSN(45	J/PTC PSN	(46)/PTC PS	16471/PTC PSA	(48]/PTC PSN	1E491/PTC
	<u>.</u>	1889.26	عاقتها	5	13.4 0.17	151 0.	02155	0.02023	0.02095	0.05317	0.00000
	2	1905.05		5	13.4 0.16	977 0.	02132	0.02601	8.02073	0.05259	0.00000
	3	1893.47		5	L3.4 0.17	092 0.	02145	0.02013	0.02086	0.05295	0.0000
	4	1899,26		5;	14.8 0.17	029 0.	02138	0.02005	0.02076	0.05272	0.00000
	5	1902,95		5:	13.9 0.16	975 0.	02133 .	0.02001	0.02075	0.05261	0.00000
	6	1888.74		5.	14.3 0.17	881 0.	02146	0.02013	0.02088	0.05296	0.00000
	TUNNEL STA	TIC PRESSU	RE= 0.720	HEATI	ER TOTAL PRES	SURE* 210#	, HEA	TER TOTAL TO	MPERATURE= 6	JUO. ALFR	A 0.00
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	27 AUGUST			PLUME TE	ISONIC WIND Chnology te	TUNNEL ST NOZZI	HUNTSVIL LE CALIBR	LE, ALABAM	ie	TEST 575	RUN 51170
	FRAME	PSA	PTC	SKIN(1)		TEMPERATUI	RE DATA	-DEGREES F	AHRENHEIT		
	1	0.40	2025.58	1828.6			SKIH(4)	SKINIS	I HODEL-STING	FEEDER-PIPE	TCH
	2	0.41	2014.53	1816.3	174.6	193.1	188.7		8 230.1	380.0	188.7
				1010.3	176.4	193.6	189.2	151,	3 225.7	275.4	146.0
	FRAME	PTC	PSC		2004						
	1	2026,63		190.9	PSN[44]/PT	C PSN[45]	JPTC PSNI	461/PTC PS	SN[47]/PTC PS	1481/PTC PSI	1[491/PTC
	22	2021.37		177,3				0.01952	0.01992	6.05320	0.00000
	3	2026,63		178,2	0.1718			0.01955	0.01994	0.05341	0.00000
	4	2017.68		162.8	0.1714			0.01949	0.01988	0.05333	0.00000
<del></del>	5	2015,47			0.17189			0.01958	0.01994	0.05362	0.00000
	6	2005,05	روسون درسون	155.3	0.17195			0.01958	0.01996	0.05368	0.00000
(				148,7	0.17216	0.02	1055	0.81964	0.01999	0.05401	0.08000
	TUNNEL STAT	IC PRESSURE	# 0,409	HEATER TO	TAL PRESSUR	E= 2100.	HEATE	R TOTAL TI	EHPERATURE=	8. ALPH	A= 0.04
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<del></del>	27 AUGUST	1973		MSFC PLUME	TRISONIC HI TECHNOLOGY	ND TUNNEL TEST NOZ	HUNTSVI ZLE CALIB	LLE, ALABAHA RATION PHASE		TEST 575	RUN 512/0
<del></del> <del></del> -					SKINE21	TEMPERAT	URE DATA- SKIN[4	T-DEGREES FA	HRENHEIT	FEEDER-PIPE	TCH
<u></u>	FRAME	_ PSA	PTC	SKIN[1]	134.2	147.4	151.			172.9	112.6
	1	0.42	1569,26	1446.7			150.			130.2	95.9
	2	0.43	1572.95	1450.2	139.4	146.0	150.				
<b>-</b>	FRAME	PTC	PS:						N[47]/PTC P5	0.05384	0.00000
	· <u>1</u>	1569.79		11			.02132	0.02637	0.02068		
		1571.37		11	0.0 0.1		.02173	0.02081	0.02109	0.05407	0.00000
	3	1574.00		10	6.9 0.1	7696 0	.02201	0.02100	0.02131	0.05404	0.00000
	4	1574,80		10	2.9 0.1	7619 0	.02228	0.02129	0.02158	0.05427	0.00000
	5	1575,05		10	0.7 0.1	7639 0	, <u>0</u> 2256	0.02153	0.02181	0.05481	0.00000
	6	1573.47		9	7.2 0.1	7657	.02279	0.02183	0.02212	8.05609	0.00000
	TUNNEL STA	TIC PRESSI	JRE= 0.42	4 HEATE	R TOTAL PRE	SSURE= 160	10. HE	EATER TOTAL	TEMPERATURE=	O. ALP	HA= 0.00
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_1							BRATION PHASE			
	FRAHE	PSA	PTC	SKIN(1)		MPERATURE DATA- [N[3] SKIN[4		HODEL-STING		TCH
g	1	0.41	1115.05	1067.8	162.8	178.2 176.	0 152.6	200.2	349.3	188.7
ORIGINAT:	2 .	0.42	1099.26	1054.6	163.6	178.2 175.	,5 <u>150.4</u>	199.7	288.6	162.8
: :										
DA	FHARE	PTC	PSC	; <u>tc</u>	PSNL441/PTC	PSN(45)/PTC PS	SH[46]/PTC PSI	(471/PTC PSN	[48]/PTC PSN	[49]/PTC
ส ส	1	1104.52		190.1	0.17105	8.01970	0.01863	0.01918	0.05084	0.00000
		1099,26		183.0	0.17387	0.01997	0.81893	0.01942	0.05166	0.08000
	3 .	1099,79	- Pies	179.0	0.17396	0.01994	0.01891	0.01941	0.05161	0.00000
	4	1101.89		173.8	0.17354	0.01986	0.91884	0.01932	0.05154	0.00000
···	5	1101.37		168,	0.17399	0.01986	0.91884	0.01932	0.85159	0.00000
	6	1104.00					5 54677	002		
(				164.	0,17366	0.01977	0,01877	0.01923	0,05144	6.00000
(	TUNNEL STA				O,17366	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	ATER TOTAL TE			A= 0.02
						1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1				
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		TIC PRESSU	RE= 0.416	HEATER 1	TOTAL PRESSUR	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	EATER TOTAL TO	MPERATURE=	D. ALPH	A= 0.02
	TUNNEL STA	TIC PRESSU	RE= 0.416	HEATER 1	TOTAL PRESSUR	E= 1100. ME	EATER TOTAL TO	MPERATURE=	D. ALPH	A= 0.02

	27 AUGUST	1973			TRISONIC WI	O TUNNEL Test Nozzi	HUNTSVIL LE CALIBR	LE, ALABAMA Ation Phase		TEST 575	RUN 51475
						TEMPERATU	RE DAYAT-	-DEGREES FA	HRENHETT		
	FRAME	PSA	PTC	SK[N[1]	SKIN[2]	SKIN[3]	SKIN[4]	SKI (15)	MODEL-STING	FEEDER-PIPE	TCH
	1	0.46	597.16	636.2	133,7	139.9	143.0	147,6	159.2	232.7	145.2
	s	0.48	556.10	600.6	133.7	139.4	142.5	148.2	157.9	206.8	134.6
	FRANE	PTČ	PSC	<u> </u>	C PSN(44)	PTE PSNI4"	' TC PSN	[46]/PTC PS		W1481/PTC PS	4(49)/PTC
	1	571.89				5546 և		0.01720	0.01777	0.04772	0.00000
		588,74			·	7211 0.		0.01786	0.01835	0.04947	0.00000
	3	589,79		14			n1864	8.01754	0.01803	0.04865	0.00000
			of Miles							0.04905	0.00000
	4	588,84					1881	0.01767	0.01821		
	5	562,42	<b>.</b>				01921	0.01807	0.01861	0.05001	0.00000
<u>.                                  </u>	6	554.52		13	5.5 0.1	7052 0 • 1	1912	0.01793	0.61849	<u>0.04978</u>	0.00000
<del>-</del> :								**************************************		D. ALPI	4A= 0.04
	TUNNEL STA	TIC PRESSUR	E= 0,473	HEATE	R TOTAL PRE	1) DOKE - DOG		ER TOTAL	EMPERATURE=	" ALF	- V - V - V - V - V - V - V - V - V - V
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—	FRAME	FSA		*TC	STINITI	SKIN[2]			Ď4T4+Ď€ K[+{4}	EGREËS SKIVI	FAHREN	HEIT EL-STIME	FEEDE	P-P[PE	TCH
	, 57#0E, _	1.22		7.16	1188.2	107.5		7,:	11^.5		• 0	132.2		331.2	244.5
	2	1.22		35.65	1186.1	157,4		5 <b>,</b> s	115.1		ا ا	145.5		316.9	244.5
	3	1.22		58.74	1168.2	136.7		4.5	108.4		.0	146.5		303.5	243.2
	4	: .32		4.00	1165.6	114.9	11	3.2	107.5	Ų	.0	153.9		293.9	241.0
	5	1.21	•	54.00	1155.1	104.9	11	1.9	107.5	<u></u>	0	158.2		283.1	240.2
	6	1.21		55,58	1167.2	152.7	<u>, 1</u> 1	0.6	106.7		• 0	163.0		276.1	238.4
														054/054	un DSW/DS
	FR PTC	TC P47		PORT-22	NO PSM/PSA										
<del></del>	1 1187.7	245.9 0.	1197	1.19	5 9.8478										
	2 1181.9	246,4 0,	0196	1,19	4 0,79628										
	3 1170.8	245,5 0.	0197	1,19										D.75679 3	
	4 1164.5	242.4 0.	0197	1,18	2 2.60645	-									
- <del></del> -	5 1154,6	241,5 0,	0198	1,18	1 2,76749	9 10 0.99	166 15 1	.01967 2	0 6.9993	0 27 1	00185	33 6.951	56 4C	0,69951	13 G,663
	6 1166,1	240.2 0.	<u>196</u>	1,18				2	1 0.9986	6 28 D	99166				· · · · · · · · · · · · · · · · · · ·
	UTAID TINN	EI TEST C	ONDIT	TONS	. 0 10.	299 PT	90.102	PS	1.215	R/L	10.7	MACH	3,48	0 TEMP	59.2
	MODEL ATT	TTUDE		PAMETERS	ALPHA PTC= 11:	8.94 70.8	BE 1 P TC= 243	0.00 R	TC/PSA=	0.0 963.3 TOTAL	S EMPER	PSH[22]/P ATURE# 25	SA= 0	9749	
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TEST	575	nUN.	516/0
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•			Fi.	ME TERNO	5LCG¥	TEST	NOV-GUIESCENT	PHASE

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		_		FLUM	E TFOH	NOLCG'	TEST	D¥=80.	IESCENT	PHAS	E						
FRAME				S<[\\\1]	SKINE	21	-TEMPERATUI SKIN[3]			GREES SKIN	FAHRE 151 MO	NHEIT- DEL-SI	ING F	EEDE	R-PIPÉ	<b></b>	TCH
1	5.13			1151.9	53	3.2	85	!	9 <b>4.</b> 5		0.0	19	2.0		305.6		238.0
۷	5.12	11	41.57	1130.7	83	3.7	*5	1	54.5		9,6	19	2.0		293.9		238.0
3	5.15	11	33.47	1127.7	as	4	85,4	. 1	56. <u>3</u>		0.0	19	2.0		284.8		238.0
4	5,11	11	24.52	1121.9	85	5.4	85.5		56.7		0.0	19	2.5		279.2		238.4
5	5.17	11	24.52	1121.9	84	1.5	84.5		87.1		0 • 0	15	70.7		272.7	_	238.0
6	5.15	11	22.95	1118.7	85	5.4	85.4	!	86.7		<u>0.0</u>	19	91.2		268.3		238,9
	7C DA7	/PTC	DDuT=22	70 BCA\BC1	. NO PS		NO PSM/PS	A NO	PSM/PS/	A NO F	'SH/PSA	NO PS	SH/PSA	NO	PSH/PSA	NO	PSM/PS/
	<u> </u>												_				
HIND THINN	EL TEST C	T I DNO:	TONS	Q 7.7	744 F	PT 1	8.002 PS	5	.135	R/L	5.3	HACI	H 1	.468	TEMP	9	6.4
MODEL ATT	TUDE	LE PA	RAMETERS	ALPHA	0.04	TC=	240,3	PTC	/PSA= .	220.7	'8 TEMPER	PSM(2 ATURE	21/PSA = 270.	<b>=</b> 0.	9675	-	
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	FRA 4E  1  4  3  4  5  6  FR PTC  1 1155.6  2 1140.8  3 1133.5  4 1122.9  5 1125.6  6 1123.5	\$ 5.12 3 5.15 4 5.11 5 5.17 6 5.15 FR PTC TC P47 1 1155.6 239.8 0. 2 1140.8 239.8 0. 3 1133.5 241.1 0. 4 1122.9 249.6 0. 5 1125.6 239.3 0. 6 1123.5 241.1 0. MIND TUNNEL TEST COMBDEL ATTITUDE	FRAME PSA  1 5.1; 11  2 5.1; 11  3 5.15 11  4 5.11 11  5 5.17 11  6 5.15 11  FR PTC TC P47/PTC  1 1155.6 239.8 0.0197  2 1140.8 239.8 0.0196  3 1133.5 241.1 0.0196  4 1122.9 240.6 0.0197  5 1125.6 239.3 0.0196  MIND TUNNEL TEST CONDIT MODEL ATTITUDE	FRAME PSA PTC  1 5.1; 1156.10  2 5.12 1141.37  3 5.15 1133.47  4 5.11 1124.52  5 5.17 1124.52  6 5.15 1122.95  FR PTC TC P47/PTC PORT-22  1 1155.6 239.8 0.0197 4.97  2 1140.8 239.8 0.0196 4.96  3 1133.5 241.1 0.0196 4.97  4 1122.9 240.6 0.0197 4.97  5 1125.6 239.3 0.0196 4.96  6 1123.5 241.1 0.0196 4.97  WIND TUNNEL TEST CONDITIONS  NODEL ATYTTUBE	FRAME PSA PTC SKINGED  1 5.1: 1156.10 1151.9  2 5.12 1141.37 1130.7  3 5.15 1133.47 1127.7  4 5.11 1124.52 1121.9  5 5.17 1124.52 1121.9  6 5.15 1122.95 1118.7  FR PTC TC P47/PTC PORT-22 NO PSP/PSA  1 1155.6 239.8 0.0197 4.97 5 0.88062  2 1140.8 239.8 0.0197 4.97 5 0.88062  2 1140.8 239.8 0.0196 4.96 4 0.79475  3 1133.5 241.1 0.0196 4.97 3 1.02976  4 1122.9 240.6 0.0197 4.97 2 1.36193  5 1125.6 239.3 0.0196 4.96 1 1.42225  6 1123.5 241.1 0.0196 4.97	FRAME PSA PTC SKIN[1] SKIN[1]  1 5.1; 1156.10 1151.9 63  2 5.12 1141.37 1130.7 83  3 5.15 1133.47 1127.7 65  4 5.11 1124.52 1121.9 65  5 5.17 1124.52 1121.9 84  6 5.15 1122.95 1118.7 85  FR PTC TC P47/PTC PDRT-22 NO PSP/PSA NO PS  1 1155.6 239.8 0.0197 4.97 5 0.88062 6 0.2  2 1140.8 239.8 0.0196 4.96 4 0.79475 7 0.3  3 1133.5 241.1 0.0196 4.97 3 1.02978 8 0.4  4 1122.9 240.6 0.0197 4.97 2 1.36199 9 1.5  5 1125.6 239.3 0.0196 4.96 1 1.42225 10 0.6  6 1123.5 241.1 0.0196 4.97	FRAME PSA PTC SKINII SKINI2]  1 5.1; 1156.10 1151.9 63.2  2 5.12 1141.37 1130.7 83.7  3 5.15 1133.47 1127.7 65.4  4 5.11 1124.52 1121.9 84.5  5 5.17 1124.52 1121.9 84.5  6 5.15 1122.95 1118.7 85.4  FR PTC TC P47/PTC PDRT-22 NC PSP/PSA NO PSM/PSA  1 1155.6 239.8 0.0197 4.97 5 0.88062 6 0.90172  2 1140.8 239.8 0.0196 4.96 4 0.79475 7 0.94917  3 1133.5 241.1 0.0196 4.97 3 1.02978 8 0.99437  4 1122.9 249.6 0.0197 4.97 2 1.36199 9 1.00567  5 1125.6 239.3 0.0196 4.96 1 1.42225 10 0.99739  6 1123.5 241.1 0.0196 4.97	FRAME PSA PIC SKIN(1) SKIN(2) SKIN(3)  1 5.1; 1156.10 1151.9 63.2 65  2 5.12 1141.37 1130.7 83.7 35  3 5.15 1133.47 1127.7 85.4 85.4  4 5.11 1124.52 1121.9 85.4 85.6  5 5.17 1124.52 1121.9 84.5 84.5  6 5.15 1122.95 1118.7 85.4 85.4  FR PTC TC P47/PTC PORT-22 NC PSM/PSA NO PSM/PSA NC PSM/PS  1 155.6 239.8 0.0197 4.97 5 0.88062 6 0.90172 11 0.9815  2 1140.8 239.8 0.0196 4.96 4 0.79475 7 0.94917 12 0.9461  3 1133.5 241.1 0.0196 4.97 3 1.02978 8 0.99437 13 0.9499  4 1122.9 249.6 0.0197 4.97 2 1.36199 9 1.00567 14 0.9567  5 1125.6 239.3 0.0196 4.96 1 1.42225 10 0.99739 15 0.9567  6 1123.5 241.1 0.0196 4.97 1 1.42225 10 0.99739 15 0.9567	FRAME PSA PTC SKINITI SKINIZI	FRAME -SA PTC S<[11] SKIN[2] SKIN[3] SKIN[4]  1 5.1; 1156.10 1151.9 63.2 65 c4.5  2 5.12 1143.37 1135.7 83.7 55 64.5  3 5.15 1133.47 1127.7 85.4 85.5 66.3  4 5.11 1124.52 1121.9 85.4 85.5 66.7  5 5.17 1124.52 1121.9 84.5 84.5 87.1  6 5.15 1122.95 1118.7 85.4 85.4 86.7  FR PTC TC P47/PTC PDRT-22 NO PSM/PSA NO PSM/P	FRAME PSA PTC SKINITIS SKINITI	FRAME PSA PIC SMINIT SKINICS S	FRAME PSA PTC SKIN(1) SKIN(2) SKIN(3) SKIN(4) SKIN(5) MODEL-ST  1 5.1: 1156.10 1151.9 63.2 75 04.5 0.0 10  4 5.12 1141.37 1130.7 83.7 75 04.5 0.0 10  4 5.13 1124.52 1121.9 85.4 85.0 06.7 0.0 10  5 5.17 1124.52 1121.9 84.5 84.5 87.1 0.0 10  6 5.15 1122.95 1118.7 85.4 85.4 86.4 86.7 0.0 10  FR PTC TC P47/PTC PORT-22 NO PSM/PSA	FRAME PSA PIC SKIN[1] SKIN[2] SKIN[3] SKIN[4] SKIN[5] MOSEL-STING F  1 5.1; 1156.10 1151.9 53.2 85 04.5 0.0 192.0  2 5.12 1141.37 1135.7 63.7 35 04.5 0.0 192.0  3 5.15 1133.47 1127.7 85.4 85.5 56.3 0.0 192.0  4 5.11 1124.52 1121.9 85.4 85.5 56.7 0.0 192.5  5 5.17 1124.52 1121.9 84.5 84.5 87.1 0.0 190.7  6 5.15 1122.95 1118.7 85.4 85.4 86.7 0.0 190.7  6 5.15 1122.95 1118.7 85.4 85.4 86.7 0.0 191.2  FR PIC TC P47/PIC PORT-22 NC PSM/PSA NO PSM/PS	FRAME PSA PTC SCINILI SKINIZI	FRAME PSA PTC SKINLI SKINLE SK	FRAME -5A PTC SKINLI SK

						<u>.</u>		-16*	PERATUR	e b	ATA5E	GREE	S FAHRE	HETT	==				
	티워스스를	F S.A		PTC	SKIVILI	SK	18121		(3)		INT41	SKI	N[5] 40	CFL-S	TING F	EEDE	R-PIPE	-	TCH
	1	7.	32 1	269.79	1200.6		93.6		94.5		96.7		0 • 0	1	35.3		581.5		229.3
<del></del>	<u>2</u> .		2ò 1	209,79	1214.5		95.4		94.5		97.1		0.0	1	39.6		274.3		230.2
	3	7.	33 1	211.89	1208.7		94.1		94.1		97.1		0.0	1	44.8		268.3		231.5
	4	7,	29 1	216.10	1210.6		92.8		93.6		97.1		មិ.មិ	1	48.3		263.1		231.9
	5	7.	28 1	226.63	1223,5		92.8		94.1		98.4		G • 0	1	50.9		260.5		232.4
	6	7,	29 1	212.95	1211.4		94.1		94.1		99.3		0.0	1	54.3		258.4		233.7
	FR PTC	Tc	P47/PTC	P0RT+22	NO PSM/PSA	·	PSH/PSA	NO.	PSH/PSA	ND	PSH/PSA	. NO	PS#/PSA	NO P	SH/PSA	NO	PSH/PSA	NO	PSH/PS
	1 1209.	3 231.0	0.0196	6,69	5 0.89488	6	1.00044	11	0.97180	16	1.00310	23	g.94899	29 1	.53970	34	1,96057	35	1.1388
	2 1208.	2 232,3	0.0196	6,71	4 0.76333	7	0.97870	12	0.98241	17	1.05243	24	0.99461	30 1	.02803	41	1,41845	36	1.0153
	3 1210.	8 234.0	0.0196	6,70	3 0.94475	8	0.97976	13	0.94846	18	1.03280	25	0.93255	31 1	.00151	42	0.73522	37	1.0174
	4 1215.	6 233.6	0.0196	6.70	2 1.30705	9	1.00151	14	0.98771	19	1.01636	26	0.99620	32 0	.97657	39	0.72514	38	8.9171
	5 1225.	1 235,4	0.0195	6.71	1 1,36434	10	ე.985ტ6	15	1.00044	20	1.00363	27	1.03280	<b>33</b> 0	.99037	49	g.74476	43	0.7299
	6 1213,	5 235,8	0.0198	6,71			· · · · · · · · · · · · · · · · · · ·			21	0.99037	28	1.02219						
				TIONS		13		7.99	6 PS	ROL		R/L	5,5	HAC	H 1	.213	TEMP	9	8,3
	AVERAGE	MODEL/N	OZZLE P	ARAMETERS.	. PTC= 121	3.7	TC=	23	3.7	PTO	PSA=	166. OTAL	45 TEMPER	SH L2	21/PSA = 265.	= 0.	9191		
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	28 AUGUST	1973		MSFC T PLUM	RISONIC WIN E TECHNOLOG	TUNNEL Y TESTNO	UNTSVILLE, 1-QUIESCENT	ALABAHA PHASE		TEST 575	RUN 518/0	
, -						-TEMPERATUR	DATADE	GREES FAHRE	NHETT			
	FRAME	PSA	PTC	ZKIN[1]	SKIN(S)	SKIN[3]	SKINI41	SKIN[5] HO	DEL-STING FE	EDER-PIPE	TC⊬_	
	1	10.56	1217.16	1213.5	105.3	109.7	108.8	0.0	135.3	287.0	231.9	
	2	10.55	1226.63	1221.4	104.9	108.8	108,4	0.0	140.0	278.3	232.8	
	3	10.53	1212.95	1208.7	104.5	108.0	108.0	0.0	144.8	271.4	233.2	
	4	10.55	1217.68	1212.9	104.8	107.5	108.8	0.0	148.7	267.0	233.2	
		10.53	1217.16	1215.1	103.6	107.1	108.4	0.0	153.0	262.7	234.1	<b>.</b>
	. 6	10,55	1219.26	1216.1	103.2	106.2	108.8	0.0	155.6	259.7	234.1	
			PTC PORT-22	NA DOM/DO	NO DEM/DEA	NO DEM/DEA	NO PEN/PEA	NO PSH/PSA	NO PSM/PSA	NO PSH/PSA	NO PSM/PSA	
	FR PTC											
	1 1216.1	234.0 8.0							29 1.00009			
	2 1227.7	234.5 0.0	196 9,44						30 0.99092			
.(	3 1212.9	234.9 0.0	198 9,41						31 0.98065			
	4 1221.4	235.4 0.0	197 9,44						32 0.97331			
	5 1217.7	236.2 6.0	197 9,42	1 1.15785	10 0.96487	15 0.98505	20 0.97148	27 0.99092	33 0.95057	40 0.86545	43 0.86875	
	6 1219.3	236,2 0,0	198 9.44				21 0.95387	28 0.99459				
			NDITIONS			8.802 PS		R/L 5.2	HACH D	909 TEMP	98.2	
	AVERAGE MO	DEL/NOZZL	E PARAMETERS	PTC= 121	0.04 BET 9.2 TC= OTAL PRESSU	235,2	PTC/PSA#	115.64	PSH[22]/PSA: ATURE= 260.	0.8946		
				···					<del></del>			
7												

	28 AUGUST	1973			RISONIC WIN E TECHNOLOG		HUHTSVILLE		· · ·	TEST 575	RUN 519/0
r								EGREES FAHRE	NHETT	Chco-prot	TCH
	FRAME 1	PSA 10.61	PTC 1170,84	5KIN[1]	103.2	107.5	105.8	0.0	263.1	401.4	311.7
	2	10.60	1147.16	1142.9	163.6	196.7	196.2	0.0	261.4	386.9	312.6
	3	10.61	1137,68	1132.4	104.0	107.1	107.5	4.0	258.8	377.6	311.3
	4	10.59	1120.84	1117.2	103.2	106.2	188.0	0.0	257.1	368.9	311.7
	<u> </u>		1126.63	-	101.9	105.3	108.0	0.0	255.3	360.7	317
	5	10.59	- 10 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	1124.0	103.2	105.8	189.7	0.0	253,6	355.9	312.1
	6	10.59	1126.63	1123,5	103.2	103.0	107.7		223,0	333.7	312.1
			<del>.</del> .								
	FR PTC	TC P47/	PTC PORT-22	NO PSH/PS	ND PSH/PSA	NO PSM/PSA	NO PSM/PS/	A NO PSH/PSA	NO PSH/PSA	NO PSM/PSA	NO PSH/PSA
	1 1170.3	314.6 0.0	201 9.50	5 0.99843	6 0.98238	11 0.96085	16 0.98311	23 0.96085	29 0.99989	34 1.36555	35 1.04843
	2 1146.1	315.9 0.0	201 9.47	4 0.95355	7 8.96815	12 0,96669	17 1.00135	24 0.96778	30 0.99041	41 1.12798	36 1.03091
> '	3 1139.3	317.0 0.0	200 9.47	3 0.887 <u>1</u> 3	8 g.98968	13 0.97033	18 0.9878	5 25 0.95537	31 0.98238	42 0.86962	37 1.01705
I >> 	4 1120.3	314.6 0.0	203 9,45	2 1.09040	9 0.98347	14 0.97179	19 0.98128	26 0.97252	32 0.97216	39 8.85721	38 0.90392
ັ້ນ	5 1126.1	314.6 0.0	201 9.44					27 0.99077			
		315.4 0.0						28 0.99260			
		3-11. 444				- <b>u</b>		<u> </u>	<del></del>		
-		FL TEST CO	NDITIONS	Q 6.0	)58 PT 1	8.000 PS A 0.00		R/L 5.2	HACH 8	,904 TEMP	97.8
	AVERAGE M	DDEL/NOZZL	E PARAMETERS	PTC= 113		315.0 RE= 1300.	PTC/PSA=	107,36 TOTAL TEMPER	PSM(22)/PSA: Ature= 365.	9.8930	
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	28 AUGUST	1973		MSFC 1 PLUI	TRISONIC WIN 16 TECHNOLOG	TUNNEL	HUNTSVILLE, N-QUIESCENT	PHASE		TEST 575	
	FRAME _	PSA	PTC	SK[N{1}	SKINISI		E DATADE	GREES FAHRE	HEIT	EDER-PIPE	†ch_
	1	7,36	1141.37	1139.3	113.2	119.2	119.7	0.0	197.3	353.7	303.9
	2	7.38	1130.84		113.6	118:4	119.2	0.0	200.7	349.4	305.6
/ · · · · · · · ·	3	7,38	1131.37	1129.8	113.2	117.5	119.7	0.0	204.2	347.7	306.9
	4	7.39	1132,42	1130.8	112.3	115.8	119.2	0.0	206.4	344.6	309.1
, , ,	5	7,39	1141.37	1138.7	111.0	114.0	119.7	9.0	209.4	342.9	309.5
	6	7,38	1134,52	1131.9	110.1	114.0	119.7	0.0	211.1	342.0	310.8
		<u></u>									
	FR PTC	TC P47/	/PTC PORT-2	2 NO PSH/PS	A NO PSH/PS	A NO PSM/PSA	NO PSM/PS/	NO PSH/PSA	NO PSK/PSA	NO PSH/PSA	NO PSH/PSA
	1_1141.4	300.6 4.6	200 6.68	5 0.8919	8 6 0.9957	5 11 0.97216	16 1.00466	23 0.93076	29 1.03715	34 1.95428	35 1.13515
	2_1129,3	308,8 0.6	8202 6.78	4 0.7672	5 7 0,9852	6 12 0.96849	17 1.85916	24 1,00832	30 1,02090	41 1.33116	36 1.01514
	3 1131,9	309.7 0.0	0201 6.70	3 0,9512	0 8 0.9852	6 13 0.94019	18 1.01985	25 0,92552	31 0,98789	42 0.73161	37 1.02562
	4 1134.0	311.9 0.0	0200 6.69	2 1.3018	9 0.9957	5 14 1.00466	19 1.90675	26 1.00466	32 0.99732	39 0.72165	38 0.91713
	5 1141.4	312.4 0.0	<u>0200 6.70</u>	1 1.3830	4 10 0.9768	8 15 1.00675	20 1.0057	27 1.82143	33 0.98946	40 0.74104	43 0.72794
	6 1135.6	315.0 0.0	0202 6,70	•			21 0.9821	2 28 1.02562			
									MACU 6	.204 TEHP	97.8
	MODEL ATT	TTUDE	ONDITIONS Le parameter	ALPHA	0.04 BE	= 310.7	PTC/PSA=		PSN[22]/PSA:	* 0.9070	
	MEATER PAR	RAMETERS.		HEATER	TOTAL PRESS	URE= 1300.	HEATER	TOTAL TEMPER	ATORES 370.		

	28 AUG	US T	19/3					131C F	#151 E T	DNIC WIN	Y T		HUNTSVILLE H-QUIESCEN			<b></b>			5† 575 		N 521/0
<del></del>	FRAHE		PSA		P	TC	sĸ	IN(1)		IN(2)		PERATUR	DATAD SKIN(4)	EGRE SK	ES FAHREI 1N(5) MOI	NHETT DFL-S	TING FE	EDEF	R-PIPE		TCH
	1		5.	14	114	5.05	1	142.9		97.5		98.8	100.1		0.0	5	31.9		368.5		303.5
	2		5.	13	113	4.00	1	130.8		98.0		98.4	101.0		8.0	2	33.2		361.5		304.8
	3		5,	15	113	4,52	1	130.3		98,0		98.0	101.4		0.6	2	32,8		355.0		306.1
	4		5,	12	114	3,47	1	139.3		95.8		97.5	101.4		4.0	2	32.8		350.3		306.1
	5		5.	13	113	9.26	1	136.1		95.8		98.0	102.7		0.0	2	33.2		346.8		307.4
	6		5.	12	115	2.42	1	150.3		98.0	<del></del>	97,5	102.7		0.0	2	34,1		344.2		309.1
	FR P		te	D47 /B	TC	PoPt_2	2 40	DCM /BC/	. NO	PCm /PC/	L NO	PSM/PSA	NO PSM/PS	A ND	PSM/PSA	NO P	SH/PSA	NO F	PSM/PSA	NO	PSH/PSA
	· · · · · · · · · · · · · · · · · · ·			_		4.97							16 0.9102								
	1 114					4.98							17 0.9358								
	2 113 3 113					4,97							18 0.9366								
	4 114					4,96				•			19 0.9561								
	5 114					4,99							20 0.9576								
	5 114					4,97			<b>-</b>		_=-		21 1.0119								
	,0 <u>.114</u>	7.5	71110	, V.VE	01	7,000				- n-										-	
						ONS			/ <u>42</u>		17.9	98 PS	5.133 ROLL	R/L	5,4	MAC	H 1	.468	TEMP	9	8.2
	HODEL AVERAG HEATER	E MO	DELIN	IOZZLE	PAR	PANETER	S	PTC= 114 HEATER 1	0. 11.5 TOTA	TC	3	08.8	PTC/PSA=	222	.38 L TEMPER		21/PSA: = 365.	= 0.1	9689	···	
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	29 AUGUST	1973				TUNNEL TESTNO	HUNTSVILLE, N-OUIESCENT			TEST 575	HUN 522/0
	FRAME_	rsa .	PIC	SKIN[1]	SKIN(2)	-TEMPERATUR SKIN(3)	E DATADE Skin[4]	GREES FAHRE Skin(5) MO	NHETT	EDER-PIPE	TCH
	1	1,21	1154.52	1155.6	100.6	104.0	107.1	0.0	160.4	366.3	294.4
· · · · ·	s	1.21	1149.79	1151.4	98.4	102.3	106.2	0.0	168.2	354.2	293.1
	<u>.</u>	_1.21	1146.63	1149.3	97.5	101,4	1,06.2	0.0	176.0	345.5	291.8
	4	1.21	1150.84	1150.8	97.1	101.0	105.8	0.0	182,9	338.1	291.3
	5	1,21	1136.10	1135.7	96.2	100.1	105.8	0.0	169.0	332.5	291.3
	6	1.21	1148.74	1156.3	95.8	99.7	106.2	0.0	194.2	327,7	290.9
	FR PTC	TC P47	/PTC PORT-22	2 NO PSH/PSA	NO PSM/PSA	NO PSH/PSA	NO PSH/PSA	NO PSH/PSA	NO PSHIPSA I	NO PSH/PSA	NO PSH/PSA
	1 1154.5	296.1 0.	0201 1.18	5 0.84991	6 0.88113	11 0.95631	16 0.98880	23 0.95886	29 0.97160	34 3.82206	35 0.7256?
	2 1149.8	294.8 0.	0201 1.18	4 0.79958	7 0.89451	12 1.00664	17 0.99326	24 0.99263	30 0.97351	1 3.82206	36 0.92700
	3 1146.6	293.9 0.	0201 1.18	3 1,48894	8 0.93783	13 1.00664	18 1.00282	25 0.99071	31 0.96459	12 0.75626	37 0.97988
	4 1150.8	295.4 0.	<u>6200 1.18</u>	2 2.61982	9 1.02321	14 0.96650	19 0.99454	26 0.97861	32 0.96077 :	39 0.67662	36 1.60091
	5 1136.1	293.9 0.	0202 1.18	1 2.77719	10 0.99008	15 1.02002	20 0.99709	27 1.00282	33 0.95121	8.71675	43 0.67789
	6 1149.3	293,4 0,	0201 1,18	- <del> </del>			21 0.99772	28 0.99326	<u> </u>		
	MODEL ATTI	CTUUF DDEL/NOZZI	ONBITIONS LE PARAMETERS	ALPHA S PTC= 114	0.04 BET	294.2	ROLL S PTC/PSA=	R/L 10.7 .0 945.34 OYAL TEMPER	PSM[22]/PSA=	0.9747	99.4
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	29 AUGUS1	1973		MSFC T	RISONIC WIN E TECHNOLOG	D TUNNEL Y TESTNO	HUNTSVILLE,	ALABAHA PHASE		TEST 575	RUN 523/0
<u> </u>	FRAME	PSA	PTC	SKIN(1)		-TEMPERATUR SKIN[3]	DATADE	GREES FAHRE SKIN(5) MO	NHEIT	DER-PIPE	ТСН
	1	1.21	447.16	446.1	120-1	125.3	115.8	0.0	183.4	513.7	328.6
· . <u></u>	2	1.21	439,26	438.7	120.5	124.4	118.4	0.0	189.4	505.5	335.1
	3	1.21	425.05	425.1	117.9	122.7	116.6	0.0	194.7	496.4	340.3
<del></del>	4	1.21	420.31	419.3	117.5	121.8	116.2	0.0	200.3	489.8	342.5
	5	1,21_	413,47	412.4	116.6	120.5	115.3	0.0	205.1	482.1	346.4
	6	1.21	413.47	412,9	113.6	118.8	114.9	0.8	210.3	476.4	349.4
	FR PTC	TC P47/P	TC PORT-22	NO PSH/PSA	NO PSM/PSA	NO PSH/PSA	NO PSM/PSA	NO PSH/PSA	NO PSH/PSA N	O PSH/PSA	NO PSM/PSA
	1 447,2	2 330.8 0.02	92 1.18	5 9.84354	6 9.86432	11 0.95950	16 8.98886	23 0.95758	29 0.96842 3	4 3,82286	35 0.72185
	2 437.	7 337.9 0.02	02 1.18	4 0.79385	7 1.89451	12 1.00537	17 0.98753	24 0.98817	30 0.97096 4	1 3.82286	36 0.92573
(	3 424.0	343.6 <u>0.0</u> 2	04 1.18	3 1.47938	8 0.94838	13 1.00601	18 1.00282	25 0.98817	31 0.96268 4	2 0.56640	37 0.98434
	4 418.	2 345.8 0.02	02 1.18	2 2,60389	9 1.02384	14 0.96714	19 8.99454	26 0.97606	32 0.95822 3	9 0.47656	38 1.00091
	5 413.1	5 349.8 0.02	203 1.18	1 2.77018	18 0.99608	15 1.01938	28 6.99772	27 1.09155	33 0.95121 4	.49568	43 9.48230
		9 352.0 0.02					21 0.99645	28 0.99008	·		
	WIND TUN	NEL TEST COM	DITIONS	0 10.2	89 PT 9	0.015 PS		R/L 10.7	MACH 3.4	80 TEMP	99.0
	AVEDACE	TITUDE HDDEL/NOZZLE ARANETERS	PARAMETERS	PTC= 42	0.02 BET 5.6 TC= OTAL PRESSU	343.3	PTC/PSA:	.0 350.49 DTAL TEMPER	PSH(22)/PSA= ATURE= 500.	0.9714	
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					<u> </u>				12/11/19/11/19		
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		LUGUST						-		PLUM	ETE	CHN	OLOG.	Y TE	NNEL St	NON-		CEN	PH	ASE						<u> </u>			
· <del></del>	FR.	ME	— 	SA_		PI	'c	SI	KINES	1		[N[2			PERAT		BATA-		GREI SK	ES F	AHRE J MO	NHE DEL	T	6 FE	EDE	R-PIPE		TC	#
		1		1.21		411	.85		411	, 9	1	104.	9	10	09.3		113.	. 6		0.	0		181.	6		473.4	<u> </u>	34	3.3
	<del></del>	2		1.21	L	412	91		412	9	1	104.	5	1	07.1	<del></del>	112.	.3		0.	0		188.	1		466.5	,	34	7.2
		3		1.22	<u>.</u>	418	.17		417	, 6	1	183.	6	11	06.2		112.	.3		٥.	0		192.	9		462.6	·	34	9.8
		4		1.22	<u> </u>	419	.75		418.	.2		103.	6	11	06,7		112.	.7		0.	0		198.	1		460.	)	35	2.9
	<u>.</u>	5		1.21		417	.12		417.	.1	. 1	183.	2	1	05,3		112.	.3		6.	0		202.	5		456.5	j		4.2
	· · · · · · · · · · · · · · · · · · ·	6	···-	1.21	<u></u>	421	. 65		421			105.	3	1	04.9		113.	.2		0.	0		207.	2		454.8	3	35	6,8
	FR	PTC	т	C 24	7/91	'C F	nat-2	22 NI	n PSI	1/PSA	NO.	PSH	/PSA	NO i	PSM/P	SA N	O PSI	1/PS/	A NO	PSH	I/PSA	NO	PSH/	PSA	MD	P5H/P:	SA NI	D PSH	/PSA
		-440.3																								9.970			
		412,4					1.16																			3.820			
		416.6					1.1																			0.562			
<del></del>	4	417.6	355	.5 (	. 920	2	1.10																			8.477			
	5	415.5	358	•1 (	. 820	14	1.1	,	1 2.7	77412	10	0.9	9158	15	1.026	23 2		985	8 27	1.0	8384	33	0.95	145	40	4.497	58 4	3 0.4	8655
	6_	420.8	360	.3 (	0.020	2	1,1	3	<del>_</del>				······································	•		2	1 0.9	9960	3 28	8,9	9349	·				<del></del>			<del></del>
	HIN	TUNN	EL 1	EST	CONE	ITIC	INS		Q Al Pi	10.2	94		9 BÉT	0.05	2 F	'S R	1.21		R/L	1	0.7	H	ACH	3,	.480	TFI	1P	99.5	
<del></del>	AVE	RAGE H	ODEL	/NOZ	ZLE	PARA	HETER	₹\$	PTC:	<b>27</b>	3.8		TC=	27	6.0	P	TC/PS	SA=	225				(22}/ RE= 5		= 0.	9718			
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	FRAM	<del></del> -··· E	FSA		PTC	SKINIII	SKIN(2)	S*1/{3}	SKIN[4]	SKI (51 HOD	Erasitae ii		451.7
	1		1.21	ð	01.37	301.9	122.7	136.1	136.1	Ü • ū	213.7	670.4	
	2		1.21	7	95.56	796.1	121.4	126.3	134.5	3.0	5 <u>5</u> 8.0	652.1	451,3
	3		1.21	7	90.31	790.3	121.8	127.9	134.8		242.3	629.9	449,5
	4		1.21	_	93.47	792.4	119.2	125,7	134,4	6.0	252.7	607.6	445.2
	5		1.21	7	94,00	795.1	118.8	125.3	134.4	0.0	262.3	589.1	444,8
	6		1,21		97,68	798.2	117.9	123.6	134.8	<u> </u>	270.9	572.7	
												NO DOM (0.24	
	FR	PTC	TC P4	7/PTC	PORT-22	NO PSM/PSA	NO PSM/PS	A NO PSM/PSA	NO PSM/PSA	NO PSM/PSA	NO PSM/PSA	NO PSM/PSA	70 - 704
			455.8 0	-	1.18	5 0.85377	6 0.8773	5 11 0.95827	16 0.99140	23 0.95827	29 0.96846	34 3.82223	39 3.710.
			455,8		1,18	4 0.80599	7 0.8894	5 12 1.00605	17 0.99522	24 0.99267	30 0,97037	41 3,82223	35 0.910
			454.8 (		1.18	3 1.49793	8 0.9372	4 13 1.00669	18 1.00287	25 0.99012	31 0.96209	42 0.70408	3/ B.7//
			452.3 (		1.18	2 2.63587	9 1:0326	2 14 0.97101	19 0.99458	26 0.97882	32 9.95827	39 0,03909	43 0-639
	5	792.4	451.0	209	1.18	1 2.79388	10 0.9901	2 15 1.02134				40 0.00773	
	6	797.7	449.6	0.0208	1,18		<u></u>		21 0.99649	28 0,99331			
	HAND	THINNE	TEST	CONDI	TIONS	9 10.2	89 PT	90 v 011 PS	1.214 ROLL 0	R/L 10.7	1111111	.480 TEMP	99,2
	HODE	L ATTI	TUDE			ALPHA S PTC= 79 HEATER 1	14 0 Ti	ETA 0.00 Cm 453.1 SURE= 900.	0.45.4004-	454 67	PSM(221/PSA ATURE# 485.	= 0,9712	
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	29 AUGUST 1973	HSFC TRIS	SONIC WIND TUNNEL TECHNOLOGY TESTNO	HUNTSVILLE, ALABAMA N-QUIESCENT PHASE	TEST 575	RUN 525/0
- <del>-</del>	FRAME PSA PTO		KIN(2) SKIN(3)		RENHEIT	TCH
	1 1,21 1222.	95 1224.5	113.6 116.6	107.1 0.0	217.6 476.4	374.6
	2 1.21 1227.	68 1227.2	112.3 115.3	107.5 0.0	228.0 463.4	375.4
	3 1,21 1229,	26 1229.8	111.0 114.9	106.0 0.0	238.9 452.6	377.2
	4 1.21 1238.	74 1236.6	109.7 113.6	108.0 0.0	246.7 443.5	377.6
	5 1.21 1240.	31 1240.8	111.0 113.2	108.8 0.0	254,5 437,4	379.3
	6 1.21 1244.	52 1244.0	109.3 112.7	110.1 0.0	261.8 433.5	380.2
	FR PTC TC P47/PTC PG	RT-22 NO PSM/PSA NO	D PSH/PSA NO PSM/PSA	NO PSM/PSA NO PSM/PS	A NO PSH/PSA NO PSH/PS	A NO PSH/PSA
		·			0 29 0.96833 34 3.8217	
"					3 30 0.97024 41 3,8217	
(					1 31 0.96004 42 8.8052	
·				<del></del>	1 32 0.95686 39 8.7281	
					3 33 0.95049 40 0.7733	
	•	1.18		21 0.99763 28 0.9925		
	HIND TUNNEL TEST CONDITION			1,214 R/L 10.7	NACH 3.480 TEM	99.2
	MODEL ATTITUDEAVERAGE MODEL/NOZZLE PARAM Meater parameters	ETERS., PTC= 1234.6	.04 BETA 0.00 5 TC= 380.9 AL PRESSURE= 1300.	ROLL 0.0 PTC/PSA= 1016.70 HEATER TOTAL TEMPE	PSM[22]/PSA= 0,9738 RATURE= 440.	
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<u> </u>								PLU	ME T	ECHNOL	DGY T	<u> </u>	10 N= (	ULFSCEN	1 pm	SE	<del></del>					
	FRA	 •E	-SA		P1		2K [	[*[1]	SK	:		HERAT		)AT4===D CIN[4]	EGREE SK!	S FAHRE	DEL-	STING F	FEDE	R-PIPE	7-1	:
	i 1 <del></del>	. <u>-</u>	1.			5.15		36.1		136.1		148.7		153.5		0.0		246,7		433,9	3	74.6
		<del></del> 2	1.		152			525.6		134.4		146.5		152.2		3.0		255.8		427.4	3	76.7
		3		21		6.63		547.7		132.7		- 144.8		151.3		t • ū		263.1		423.1	3	79.3
		4		21		2,42		552.4		132.7		143.5		151.3		6.0	;	271.4		421.8	3	82.4
<del></del>		<u>.                                    </u>		21		2,42		561.4		131.8		142.2		151.3		0.0		277.4		428.5	3	84.1
		5		21		9.26		552.9		142.2		140.6		150.4		0.0		284.0		420.1	3	86.3
															· - <b></b>							
	FR	PTC	TC	P47/P	TC I	PORT-2								D PSM/PS								
	1 1	536,6	377.5	0.02	05	1.19	5	0.8542						6 0.9976								
	2 1	519.8	380.1	0.02	7 ل	1.19		0.8058						7 1.0027								
	3 1	547.2	383.2	0.02	0.4	1.19	3	1.4983	36 8	0.945	39 13	1.012	92 1	8 1.0097	3 25	0.99381	31	0.96641	42	0.87850	37 0.	9836
	4 1	555.1	386.3	0.02	G <b>4</b>	1.19	2	2.6374	1 9	1.028	21 1	n.976	61 1	9 1.0014	5 26	0.98298	32	0.9651	39	0.80970	38 1.	0148
	5 1	565.1	398.0	0.64	0.4	1.19	1	2.792	36 <u>1</u> 0	8.996	99 1	1.026	30 2	0 1.0046	4 27	1.00591	33	0.9575	40	0.86257	43 3	8150
	6 1	550.3	390.2	2 0,02	07	1.19	· .	<del></del>				,	2	1 1.0040	0 28	0,99763	3					
	HIND	TUNNE	L TES	ST CON	DITI	ONS		0 10	290	PT	90,1		s p	1.214 OLL	R/L	10.7	MA	сн .	3.48	TEMP	99	.1
* 1 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	AUCD	ACE ME	105/ /	4のフナ! ピ	PAD	AMETER	S 1	ALPHA PTC= 1: Heater	545.7	1	ETA C= Sure	0.00 384,2 • 1710.	P	TC/PSA=	1272	.85 L-TENPER	PSMS	221/PS	A» D.	9787		
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		AUG		17/3														KKEL ST.,			ESCE								TES	575 		RUN	527/0
	F	RAHE	· · -	ρ5	A		ΡŢ	c		SKI	N(1)		SK	1 N E	21		TEMP	ERA'	TURE	DAT SKI	1.41	DEG	REES Skli	5 FAH 1[5]	RENI	ETT L-S	TING	FEE	DER	-PIPE			<del>-</del>
•		1		1	.21		1798	.21		17	99.3		;	111	. 0		11	7.5		12	0.1			0.0		2	10.7			427.4		3	65.n
		2		1	.21	:	792	.42		17	95.6		:	1 6 8	.4		11	6.6		11	9.7			0.0		2	23.7			420.1		3	66.3
		3	<b></b>	1	.21		1812	.42		18	14.0			<u> 110</u>	.6		11	5.8		12	0.5		<del>-</del>	0.0		2	35.0			414.9	-	3	58.5
		4		1	.22		1817	.68		18	17.7			108	.4		11	4,5		12	0.1			0.0		2	44.5			409.7		3	70.2
		·_ <b>-</b> .		1	.21		1809	.79		18	10.8			109	.3		11	3.6		12	1.0			0.0		2	54.0			408.4		3	73.3
		6		1	.21	1	819	.79		18	20.3		1	108	. 4		11	2.7		12	1.8			0.0		2	61.0			407.1		3	74.1
							-		-																-								···•
-	FR	Pi	c_	tc	P47	/PTC	; p	ORT-	22	NO (	PSH/F	PSA	NO	P5	M/P	BA A	16 P	SH/P	SA	NO P	5H/P	SA N	10 P	SH/P	SA N	0 P	SK/P	SA N	0 P	S#/PS	A NO	PS	1/PSA
	1	1799	.3	369,	L Q.	0284	<u> </u>	1.1	9	5	0.856	375	6	0.	8823	J2 1	1 0	.963	23	16 8	.996	99 2	3 0	,960	8 2	9 0	973	12 3	4 3	.8217	0 35	s o .	2115
	2	1795	.1	369.	L O.	0204		1.1	9	4	8,807	779	7	9.	895	6 1	2 1	.011	01	17 1	. 883	36 2	4 0	. 996	36 J	<b>0</b> 0	975	33 4	1 3	.8217	0 36	s.	2564
		1810	.8	371.	3 0,	0263	<u> </u>	1.1	9	3 :	1.503	45	8	0.	9409	3 1	3 1	.011	65	16 1	.008	46 2	? <b>5</b> 0	.993	7 3	1 6	965	78 4	2 0	9256	4 37	7 0.1	8298
	4	1816	.6	373,	<u>L 0,</u>	0203		1,1	9	2 :	2,645	70	9	1.	0263	0 1	4 0	<u>,972</u>	79	19 1	.001	45 2	26 D	, 982	54 3	2 0	9638	7 3	9 0	. 8511	1 38	1.6	1101
	5	1812	.9	377.	<u> </u>	0204	ļ	1.1	9	1 2	2.801	.77	10	0.9	9938	1 1	5 1	.026	93	20 1	.004	64 2	7 1	-0675	3 3	3 O	956	2 4	0 0	.9141	8 43	0.0	5811
<del></del> .	6	1821	.4 :	377,9	0,	8203		1.1	9		<del></del>			<del></del>			·			21 1	.005	27 2	8 0	,997	3								
	WIN TOW	i <u>p</u> Tu	NNEL	TES	T C	1 DNO	TIO	NS	• • • •	. 0	10 LPHA	.29		Ρī			023				214			10.7	,	HACI	4	3.4	80	TEM	P	99.3	
	AVE	RAGE	HOL	)モレノト	IOZZ	LE P	ARA	METE	RS	. Pi	TC= 1 EATER	809	0.0 7.3		TO	TA = URE	373	0.00 .1 030.			PSA=		9.9	9 TENPE			1/PS		0.9	803			
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)	FRANE		PSA		PI	c	SKIN[1]	SK	(INES)		PERATUR N(3)	E DATAI Skin[4]		ES FAHRE [N[5] MO			EEDE	R-PIPE		TCH
· · · · · · · · · · · · · · · · · · ·	11		5.0	0	1877	.68	1875.6		117.5	1	20.5	124.9	_	8.0		219.4		426.1		397.1
· 	2		5.0	22	1882	.42	1878.2		116.6	1	18.8	124.9		0.0	3	228.5		434.4		405.8
	3		5,0	2	1873	,47	1867.2		115.3	1	17,9	125.3		0.0		237.1		442,2		411,8
	. 4		5.0	3	1847	.68	1839,8		117.1	1	17,5	125.7		0.0		246.7		448.7		417.9
	5		5.0	0	1837	.68	1629.8		114.9	1	16.6	126.2		9.0		254.0		453.9		421.4
<u> </u>	6		5,0	12 .	1819	,26	1812.4	<u> </u>	115,3	1	16.2	127.0		0.0		261.4		458,2		423,5
													•						<u> </u>	
	FR PT	C	TC F	47/P	TC P	ORT-22	NO PSM/PS	A NO	PSH/PSA	NO	PSH/PSA	NO PSH/PS	A NO	PSH/PSA	NO I	PSH/PSA	NO	PSH/PSA	NO	PSH/PS
	1 1876	.1 4	01.2	0.02	15	4,88	5 0.8677	7 6	0.86159	11	0.94876	16 0.9587	8 23	0.92022	29 (	96264	34	2,85707	35	g,9888
	2 1882	,4 4	10.0	0.020	<b>)</b> 5	4,89	4 0.8114	6 7	0.94259	12	0.96187	17 0.9572	4 24	0.97730	30 (	,98424	41	1.52958	36	1.1554
	3 1875	.1 4	1>.8	0.020	)6	4,89	3 0.9973	5 8	0.98561	13	0,92639	18 0.9487	6 25	0.93564	31	.00198	42	0.94104	37	1.0698
•	4 1849	.8 4	22,4	0.020	)7	4.90	2 1.3529	4 9	1.02621	14	D.93796	19 0.9263	9 26	0.91945	32 :	1.05366	39	0.91945	36	1.0644
	5 1839	.8 4	25,9	0.021	15	4,89	1 1,4823	1 18	0.98578	15	0.97421	20 0.9827	<u>'6 27</u>	0.93950	33 :	.02821	40	0.94181	43	0.9181
	6 1820	. Š 4:	28,1	0.02	15	4.89						21 0.9796	1 28	0.93873	<del></del>				,	
	WIND TU	NNEL	TEST	CONI	1710	NS,	0 7.	728		7.98	8 PS	5.015	R/L	5.3	HAH	CH 1	.484	TEMP	10	1.6
· · · · · · · · · · · · · · · · · · ·	AVERAGE	HOD	EL/NO	ZZLE	PARA	METERS	ALPHA PTC= 18 HEATER	57.2		41		PTC/PSA= HEATER		.37 L TEMPER		23/PSA = 510.		9749		<del></del>
																			<del></del>	
	· ·																			
																		<b></b> .		

	1-4051		_			PLU	<u>E TEC</u>	SH AUFOR	Y TEST.	NON	-QUIESCE	T PH	NSE					<u></u> .
	 RAME	PSA		PTC	S	K[N[1]	SKIN	v(S)	_		DATA	rEGRE!	S FAHRE-	HETT	G FEED	EP-PIPE		TCM
	1	5.:	<del>-</del>	1551.37		1547.7		34.3	143		147.4		ā•0	240		437.4		394.
	2	5.		1555.05		1540.7		33.5	141.		146.5		5.0	24ê,	, 4	444.5		498.
	3	5.0		1549,79		1545.1		32.7	139		145.7	•	J.0	254	9	448.2		413.
	4	5.;		1549.79		1542.4		31.8	137		144.8		0.0	260	. 5	454.3		419.
		5,0		1541.89		1534.0		29.2	135		144.8		0.9	266.		457,4		420.
	6	5,1		1502.42		1499,6		28.8	134		144.8		0.0	271		460.4		422.
						O PSM/PSA			and Ber		Nn Pc⇔/Pi	 	PCH/PCA	NO PSM	/PSA NO	PSM/PSA	NO	P<-/P
FR						5 0.87013												
<del>-</del>	1551.9				•													
	1556.1					4 0.80863												
3	1554.0	417.5	0.020			3 g.9938B					-							
4	1549.8	423.2	0.020			2 1.35515												
5	1542.4	425.0	0.020	5 4.4	34	1 1.40051	10 0	99619	15 0.9					33 1.02	2493 40	7,07017	-3	0.667
6	1502.9	426.3	0.020	9 4.1	35					<del></del>	21 0.984	66 28	0.94238			· · · · · ·		
MO AV	DEL ATT	TTUDE.	177LF	ITIONS.	RS.		0.02	2 BET	417	3	5.032 POLL PTC/PSA= HEATER	306	5.3 .60 L TEMPER	MACH PSH(22]			10	1,5
											· · · · ·							

46V 530/0 7#ST 575 27 4.5UST 1973 PLUME TECHNOLOGY TEST ... NON-QUIESCENT PHASE -TEMPERATURE DATA--- DEGREES FAHRENHEIT----SKINIST HODEL-STING FEEDER-PIPE TCH 5KIN[4] SKIN[3] SKIN[2] SKIN[1] PTC FRAME PSA 391.0 433.1 241.0 û.J 160.0 155.6 143.9 1125.6 5.14 1131.69 437.0 395.8 245.5 ů.J 159.2 153.4 1122.9 140.9 1125,58 5,17 2 401.9 441.7 251.4 0.0 156.5 150.0 140.5 1139.5 1144.52 3 5.15 404.5 444.3 255.3 155.2 0.0 147.4 1141.4 137.9 1146.10 5.10 4 407.9 448.2 259,7 0.0 154.3 145.7 136.6 1150.8 5.15 1157,16 5 450.8 410.1 263.1 0.0 153.5 143.5 135.7 1146.6 1150.84 5.12 6 TO P47/PTC PORT-22 NO PSM/PSA NO PSM/PSA NO PSM/PSA NO PSM/PSA NO PSM/PSA NO PSM/PSA NO PSM/PSA NO PSM/PSA FR PTC 4.97 5 0.89396 6 0.90300 11 0.98811 16 0.91806 23 0.96175 29 0.95120 34 2.80767 35 0.97304 1-1134,5 395.5 0,0207 4 0.78250 7 8.95346 12 0.95196 17 0.94593 24 0.99714 30 0.98961 41 1.53412 36 1.14777 2 1127.2 400.4 0.0209 3 1.03028 8 0.99037 13 0.95120 18 0.93840 25 0.93237 31 1.03631 42 0.81715 37 1.08074 3 1146,1 400,1 8,8286 4 95 2 1.36166 9 1.00919 14 0.95647 19 0.94744 26 0.90601 32 1.03329 39 0.78777 38 1.06342 4.96 4 1146.1 409.2 0.0207 1 1.44827 10 6.99714 15 0.98293 20 0.95723 27 0.93689 33 1.00769 41 0.81564 43 0.79666 4.97 5 1157.2 411.8 0.0206 21 1.91522 28 0.95196 6 1152.9 414.9 0.0208 4.98 TEMP 101.3 1,467 MACH 5.3 7.738 PT 17.986 5,136 R/L WIND TUNNEL TEST CONBITIONS..... Q HODEL ATTITUDE..... ALPHA 0.02 BETA 0.0 ROLL 0.00 PSM[22]/PSA= 0.9669 PTC/PSA= 222.75 TC# 406.3 AVERABE HODEL/NOZZLE PARAMETERS. . PTC= 1144.0 HEATER TOTAL TEMPERATURES 500. HEATER PARAMETERS..... HEATER TOTAL PRESSURE 1260.

	FRAM	E	PSA.		PTC	SK[N(1)	SKIN[2]	SKIN[3]	SKIN[4]	SKINISĮ MO	DEL-STING FI	EEDEP-PIPE	TCH
			5.17	6	4(.04	#30.6	:,9.7	16.7	137.1	3.0	241.5	435.1	338.9
	è		5.17	8	40.64	a37.2	111.0	1-7.1	109.7	0.0	244,9	439.1	791.7
			5.18		44.30	840,3	108.8	105.6	11°.1	0.0	248.3	441.3	194.9
	4	,	5,22		50.31	844.5	168.4	105.8	111.0	0.0	251.4	443.5	397.5
		;	5.23	6	42.42	838.2	109.7	106.2	112.7	6.0	255.3	446,9	400.6
		<u> </u>	5.22		46,63	842.9	109.3	106.2	112.7	0.0	257.5	447,6	402.
										NO DOMESTIC	NO Dew/Rea	NO POM/PSA	NO PSH/P
<del> </del>	FR	PTC	TC P4	PAPE				A NO PSM/PSA					
	1 (	340,3	393,8 0	0205	4,96			5 11 0,97473					
	2 (	340.8	396,00	8206	4,96			5 12 0,93976					
	3 6	342,9	398,6 0	0286	4,97			7 13 0,94497					
	4 (	50.8	401.7 0	0205	4,95	2 1.38992	9 1.0104	5 14 0.94423	19 0.96952	26 0.91000	32 1.03054	39 0.71803	38 1.074
	5 (	342.4	404.3 0	0208	4,97	1 1,46284	10 1.6000	3 15 0.95315	20 0.99557	27 0.95390	33 1.02161	48 8.73886	43 j.729
	6 1	346.1	406,5 0	0207	4,95				21 1.01566	28 0,94497			
<del></del>						0 7.7	45 PT	17.994 PS	5,198	R/L 5.3	MACH 1	.459 TEMP	101.4
	MODE	ATTI	TUDE	71 E P	RAMFTERS	ALPHA PTC= 84 HEATER T	0.02 BE 3.9 TC	TA 0.80 = 400.1	ROLL C	162.34	PSM[22]/PSA ATURE= 500.	<b>=</b> 0.9544	
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		_ <del></del>			·								

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	27 AuG	UST 1	973			PLUP	E TECHNOLOG	Y TEST NON	- DUTESCENT	PHASE			
	FRAME		 F54		PTC	SK[N[1]	SKINIZI	TEMPERATURE 5KIN[3]	DATADE SKIN[4]	GREES FAHRE SKIN[5] MO	NHEIT	EEDER-PIPE	TCH
					-:	491.4	101.9	100.5	107.6	J.D	185.5	401.3	337.7
	1		5.3		495.56	492.9	100.6	99.7	181.4	_0.0	188.6	404.0	342.5
	<u></u>		5.3	<del>_</del>		495.1	130.6	100.1	101.4	0.0	192.5	4-6.2_	345.9
	3		5.3		493,74	493.5	99.7	99.7	102.3	0.0	194.7	408.8	348.5
	4		5.3		496.63		102.1	98.8	103.2	0.0	198.6	411.4	351.6
	5 6		5,3 5,3		497.68 498.21	494,0	99.7	99.7	104.0	0.0	202.0	414.0	354.2
				J									
	FR I	PTC	TC P	47/PTC	PORT-22	NO PSM/PS	NO PS4/PS	A NO PSM/PSA	NO PSH/PS	A NO PSH/PS/	NO PSH/PSA	NO PSH/PSA	NO PSM/PS
			_	0.0202		5 0.8845	7 6 0.9064	0 11 0.93113	16 0.9376	8 23 0.9369	3 29 0.98424	34 2.69664	35 0,7730
		_		0.0203		4 n.8n38	3 7 0.9471	4 12 0.95005	17 0.9667	8 24 1.0046	30 1.00388	41-1,54801	36 1.1282
						3 1.0409	8 8 1.0380	7 13 0.95514	18 0.9704	1 25 0.9231	3 31 1.01261	42 0.62342	37 1,0693
··				0.0202		2 1.4025	2 9 1.0329	7 14 0.93622	19 0.9667	8 26 0.9114	9 32 1.01624	39 0,60014	38 1.0438
				0.0204		1 1.4759	9 10 0.9864	2 15 0.93768	20 1.0067	9 27 0.9369	5 33 1:81624	40 0.61324	43 0.6117
				0.0264						1 28 0.9573			
	6 4	97.7	357.2	0.0205	5 5.03			-	-				
			<del> </del>				744 07	18.017 PS	5,317	R/L 5.3	HACH	1.444 TEMP	181.1
	HODEL	, ATTI	TUDE.		ITIONS PARAMETER	ALPHA	0.02 BE	TA 0.00	ROLL	0.0	PSM(22)/PS RATURE= 500	A= 0.9479	
												<u> </u>	<del></del>
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			· <b>-</b> —		<del>-</del>		<del></del>						
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FR.	∆ 4E	-94	PTC		SKI*[1]	SKI4[S]	-15456MV10M	SKIN(4)	SKIN[5] HO	DEL-STING F	EEDER-PIPE	TC
	1	7,47	507.		504.5	5÷,4	96.7	111.0	U . S	252.5	450.6	374
	2	7.49	506.	10	504.0	101.0	97.1	114.5	0.0	205.9	452.6	_ 37
	3	7,48	588.	74	507.7	98,8	96.7	114.5	6.0	209,4	451,3	37
	4	7,48	511.	37	506.7	100.6	98.6	114.9	0.0	213.7	451.3	38:
	5	7.47	510.	84	509.3	100.6	98.8	117.5	0.0	216.3	452.1	38
	6	7,47	511,	89	510.3	102.7	99.3	115.8	0.0	220.7	453.4	38
			228 20			no ac-/204	LO DEM/DSA	NO PSE/PS	A NO PSH/PSA	NO PSH/PSA	NO PSM/PSA	NO PSM
FR	PTC	TC P47/							7 23 0.90688			
		380.1 0.0		6.75				· ·	4 24 0.99999	the second secon		
	~	381.4 0.0		6.75					7 25 0.91877			
		382.8 0.0		6.74								
4	510.3	385,4 0,0	205	6.73					6 26 0,99999			
5	510,3	387.2 0.0	205	6,74	1 1.37506	10 0.97671	15 1,00827	20 0.9844	7 27 1.01862	33 0.97827	40 0,5/992	43 0,3
6	510.8	388,9 0.0	205	6.75				21 0,9756	8 28 1,03259			
M.S.N	B TUNNS	EL TEST CO	NDITION	iS	. 0 7.4	71 PT 1	.8.013 PS	7,477	R/L 5.5	HÁCH 1	L.195 TEMP	100.2
MOD	EL ATT	TUDE	C DADA	FTERS		0,00 BET 8.7 TC=	384.3	PTC/PSAC	0.0 68.04 Total: Temper	PSH(22)/PS/ ATURE# 520,	A= 0,9019	
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	- 21	AUGUST	19/3			PLUP	RISONIC WIN LE TECHNOLOG	Y TESTN	M-ORIESCEN	T PHASE		1621 3/3	RUN 53470
	FR:	 AHE	PSA		PTC	SKIN(1)	SKINE21	-TEMPERATU	E DATADI Skin(4)	EGREE - FAHREI Ski (5) MOI	•		TCH
		1	7.	39	851.89	548.7	127.9	137.9	140.0	0.0	218.1	477.7	391.5
		2	7,	40	857.68	852.9	126.6	136,6	138.7	0.0	223.3	473.8	393.6
		3	7.	42	859.26	855.6	123.6	134,4	138.7	6.9	228.9	470.4	397.1
		4	7,:	39	858.21	855.6	123.6	132.7	138.7	0.0	235.4	468.6	400.6
		5	7.	48 .	865.05	860.8	121.4	130.1	137.9	0.8	239.7	466.5	401.9
		6	7.	13	870.84	867,2	121.6	129.2	137.9	0.0	244.5	465.2	484.9
<del></del>	FR	PTC	TC I	947/PTc	9nRT+92	NA PSW/PSA	NU BEN'DES	NO PSH/PS	ND 95m/95	A NO PSM/PSA	NO 95M/PSA	NO PSM/PSA	NG PSM/PSA
·				0.8206	<del> </del>	•		<del></del>		0 23 0.92255	<del></del>		
		•		0.0205						8 24 1.08039			
				0.0206						6 25 0.92412		<del></del>	
				0.0207					-	5 26 1.00143			
				0.0205						6 27 1.01554			
				0.8206						2 28 1.02598			
									••			,	
<u></u>					TIONS			8.007 PS	7,484	R/L 5.5	HACH 1	.202 TEMP	99.3
<del></del>	AVER	RAGE H	ODEL/NO	ZZLE P	ARAMETERS	PTC= 85	0.00 BET 9.7 TC= OTAL PRESSU	402.3	PTC/PSA=	9.0 116.11 Total Tempera	SH1221/PSA		
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	27 A	UGUST	1973				MSFC TI PLUM	RISONIC E TECHN	OFOCA	TUNNE!		NTSVILLE,					16	ST 575	RUN	535/0
	<u> </u>		- <del></del>		<del></del> :	= =====				TEMBED	TIDE	DATADE	CREE	STANRE	RREIT					
- <del></del>	FRA	ME	PSA		PTC	SKIN	(1)	SKINIZ		SKIN[3		KINE41	SKI	N(5) HO	DEL-S	TING F	EEDE	R-PIPE		TCH
		1	7.4	1	856.63	85	2.9	140	, 9	153.	5	154.3		0.0	2	23.3		478.2		392.8
		2	7.3	58	858.74	85	5.1	136.	.6	150.	4	152.2		0.0	2	29,8		473.0		395.8
		3	7.3	58	864.08	85	9.8	137.	0	147,	4	151.3		9.0	2	34.5		471.2		399.3
	-	4	7.3	18	867.16	86	4.0	133	.5	143.	5	148.7		0.0	2	39.7		468.2		401.4
		5	7.3		873.47	87	0.3	131	.8	141.	8	148.3		0.0	2	44.1		466.9		404.5
		6	7,3		877,68	87	4.0	130	.5	139.	6	146,5		9.0	2	49.7		465.2		407.1
	FR	PTC	†C F	P47/PTC	PORT-2	2 NO P	SH/PSA	NO PSI	4/P\$A	NO PSH	/PSA I	NG PSH/PS/	NO.	P\$H/PSA	NO P	SM/PS/	NO.	PSH/PSA	ND F	SH/PSA
	1	855.1		9,0206								16 1.00885								
				0.0206								17 1.84973		•						
				0.0296								18 1.01723								
				0.8286								19 1.69306								
				0.8206								20 1.90361								
				0,0286								21 0.97950								
		0,011	41012	414200		· · · · · · · · · · · · · · · · · · ·		•			:									
	A t ND	TIMM	E1 TES1	T CONDI	TIONS	0	7.4	87 P	r 17	7.992	PS	7.381	R/L	5.5	HAC	:н :	L.204	TEKP	- 9	9.2
	MODE	L ATT	TUDE		ARAMETER	AL	PHA.	0.00	aET/	403.9	86		D.C	.21	PSM(2	21/95/	A= 0.	9816	·	
	HEAT	ER PA	RAMETER	RS	******	HE	ATER T	OTAL PI	RESSU	RE# 90		HEATER								
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		27 A	ับดิบ	ST	197	3								HSF1										SVIL			BAM/	<b>T</b>				Y	EST	575	Ř	UN :	53571
<del></del>		FRA	ME		p	SA	-		P	TC	*	S	KIN	((1)		SK	INC	5)		TEM SKI	_			YA						T						<u>t</u> o	CH
			1			7.3	5		119	7.6	3		119	1,9			137	- '• n		1	48.	5	1	47.0	3		0.0	)		214.	. 2		4	81.6		39	28.4
			2			7.3	14		118	6.1	<u> </u>		115	3.5			134	.8		_1	44,1	8	1	44.8	9		0.0	)		224.	1		_ 4	76.4		48	3.6
			3			7.3	5_		118	5.5	<u> </u>	;	118	2.4			133	1.1		1	42.	6		44,8	<u> </u>		0 - 0	<u>-</u>		231.	.1		4	73.8		46	7.1
			4		,	7.3	6	:	118	7.1	5	:	118	11.9			132	.2		_1	40.	9		43.5	5		0.0	;		240	6		4	71.7		41	12.3
			5			7,3	6		120	1.3	·	<del>-</del>	119	8,2			130	.9		1	38,	7	1	42,6	5		0.0	)		247	, 5		_4	70.4_		· 4	<u>16.6</u>
			6	·		7.3	5	:	119	6.1	<u> </u>	:	118	9.8		:	129	.6		_1	37.	0	1	43.5	5	_	Q • E	<u> </u>		254.	0		4	72.1		41	19.2
<del></del>						•															-			<u></u>	•						<del></del>						
		FR	PT	C	Ţ	C F	47	/PT	;	POR	1-2	2 N	0 P	SH/1	<b>^</b> \$4	NO	PS	M/F	SA	NO.	PSH	/PSA	NO	PSH/	/PSA	NO	PSM/	'P5A	NO	PSH/	/PSA	NO.	PS	H/PSA	NO	PS	H/PSA
		1 1	198	,7	402	,1	L	158.	<u>.                                    </u>	6	, 67		5 <u>0</u>	.891	63	_6	٥.	994	21	11	0.9	7107	16	0.99	9316	23	0.93	3793	29	1.0	3209	34	1.	94950	35	1.:	12256
	···	2 1	182	,9	407	. 0	9,0	20	5	6	67		4 Q	.769	959	7	٥.	977	38	12	0.9	7896	17	1.04	4313	24	6.99	158	30	1.8	2209	41	1.	<b>38</b> 085	36	1.0	01315
		3 1	185	.1	410	. 9	0.0	B20	5	6	66	;	<b>3</b> 0	94	329	8	٥.	973	17	13	0.9	4739	18	1.02	2420	25	8.93	003	31	0.99	211	42	0.	74960	37	1.0	01262
		4 1	186	.6	415	. 3	0.0	920	,	6	68		2 1	.299	84	9	D.	991	58	14	0.9	B <b>7</b> 90	19	1.01	1052	26	8.99	316	32	0.97	7896	39	Đ.	74066	38	0.1	91057
	<del> </del>	5 1	200	.8	420	.6	6,	920	5	6	.68		1 1	.37	191	10	G.	977	90	15	1.0	8526	20	0.99	9842	27	1.0	1420	33	0.98	8843	48	0.	76275	43	8.3	74908
		6 1	199	, 3	423	.7	8,1	050	7	6	,69	,		<u>.</u>										0.98	8527	28	1.01	736									. <b></b>
		w I ND	T.1	MME		FST		OND	. 7 :	nns			۵		7.5	n 1		• T	18	.00	4	P\$	. •	7.353	3	R/L			H.	ACH	1	.20	7	TEMP	1	00.2	 2
		MODE	L A	ITT	TUO NEL	E	1771	F	PAR	AME	TER:	 5	AL	PHA C= :	119	Q. 2.2	02	<b>8</b>	IETA IC=	41	3.3 130			:/P\$/	Á E					(22)			.90	81			
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FRANE -SA PIC SKIN(1) SKIN(2) SKIN(3) SKIN(4) SKIN(5) MODEL-STING FEEDER-PIPE  1 7.40 1551.37 1545.1 97.5 100.4 114.9 0.0 222.6 479.5  2 7.41 1544.00 1539.3 55.4 17.1 114.9 0.0 235.4 476.0  3 7.44 1554.52 1540.6 96.7 1.6.2 116.6 0.6 245.4 476.0  4 7.45 1564.52 1559.3 96.2 174.9 117.9 0.0 253.2 474.7  5 7.44 1576.10 1569.3 95.8 105.3 118.8 0.0 261.8 475.1  6 7.44 1572.42 1566.2 97.5 105.3 121.4 0.0 269.2 477.7  FR PIC TC P47/PTC PORT-22 NO PSM/PSA		7,45 7,44 7,45 7,44	1551.37 1544.00 1554.52 1564.52	1545.1 1539.3 1540.6	97.5 95.4 96.7	198.4 197.1	114.9	<b>0 • Ū</b>	222.č	479.5	4
7,44 1554.52 1540.6 96.7 1.6.2 116.6 G.G 245.4 476.0  4 7.45 1564.52 1559.3 96.2 174.9 117.9 C.O 253.2 474.7  5 7.44 1576.10 1569.3 95.8 105.3 118.8 0.0 261.8 475.1  6 7.44 1572.42 1566.2 97.5 105.3 121.4 0.0 269.2 477.7  FR PIC TC P47/PTC PORT-22 MO PSM/PSA NO PS		7.45 7.44	1554.52 1564.52	1539.3 1540.6	95.4 96.7	1-7.1	114.9				
7.44 1576.10 1569.3 95.8 105.3 118.8 0.0 261.8 475.1  FR PIC TC P47/PTC PORT-22 NO PSM/PSA NO PSM/P		7.45 7.44	1564,52	1540.6	yė,7		· · · —— · · · ·				
4 7.45 1564.52 1559.3 96.2 174.9 117.9 1.0 253.2 474.7  5 7.44 1576.10 1569.3 95.8 105.3 118.8 0.0 261.8 475.1  6 7.44 1572.42 1566.2 97.5 105.3 121.4 0.0 269.2 477.7  FR PTC TC P47/PTC PORT-22 NO PSN/PSA NO PSN/PSA NO PSM/PSA NO P		7.44					116.6	6 - 6	245.4	476.5	
5 7.44 1576.10 1569.3 95.8 105.3 118.8 0.0 261.8 475.1 6 7.44 1572.42 1566.2 97.5 105.3 121.4 0.0 269.2 477.7  FR PTC TC P47/PTC PORT-22 NO PSM/PSA NO PSM			1576.10	<del></del>	96.2			· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·		
FR PIC TC P47/PTC PORT-22 NO PSM/PSA NO PSM/		7,44		1569.3							
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1 1556.1 416.6 0.0205 6.78 5 0.89592 6 0.99466 11 0.97179 16 1.00505 23 0.91047 29 1.03675 34 1.91708 35 1 2 1545.1 421.5 0.0207 6.77 4 0.77743 7 0.98011 12 0.96348 17 1.05182 24 1.00089 30 1.01181 41 1.41351 36 1 3 1559.3 427.2 0.0206 6.77 3 0.96036 8 0.98842 13 0.93386 18 1.01181 25 0.91982 31 0.98115 42 0.82005 37 1 4 1566.1 430.7 0.0206 6.77 2 1.29503 9 0.98530 14 1.00817 19 1.00297 26 0.99985 32 0.99726 39 0.80705 38 0 5 1577.2 435.1 0.0205 6.77 1 1.37870 10 0.97075 15 1.00505 20 0.99777 27 1.01492 33 0.98426 40 0.82992 43 0 6 1570.3 439.5 0.0208 6.77 2 1.29503 9 0.97075 15 1.00505 20 0.99777 27 1.01492 33 0.98426 40 0.82992 43 0 6 1570.3 439.5 0.0208 6.77 2 1.01492 37 0.000 PS 7.443 R/L 5.5 MACH 1.198 TEMP 180 MODEL ATTITUDE	PTC	TC P47/8	PIC PORTS	22 60 954/854	NO Beyzaea	LO Benzaci	NO Pow (Po.				
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HIND TUNNEL TEST CONDITIONS Q 7.474 PT 18.000 PS 7.443 R/L 5.5 NACH 1.198 TEMP 180 MODEL ATTITUDE						2- 1000-0-				40 0105335	43 U
MODEL ATTITUDE							22 9437403	En Tingssi	<u> </u>		
MODEL ATTITUDE	UNNEL 1	EST CON	DITIONS	0 7,4	74 PT 1	8.000 PS	7,443	R/L 5.5	HACH 1	.198 TEMP	180
HEATER PARAMETERS HEATER TOTAL PRESSURE 1700. HEATER TOTAL TEMPERATURE 510.	E MODEL	./NOZZLE	PARAMETER	S PTC# 156	2.3 TC=	428.4	PTC/PSA=	209.90	PBM(221/PSA	= D.9099	
	PARAME	TERS	********	HEATER T	OTAL PRESSU	RE= 1700.	HEATER T	STAL TEMPER	RATURES 510.		
									-		
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	····				<del>- , ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,</del>	<del>V. I </del>	<del></del>	<del></del>		<u> </u>	
										<u> </u>	
		45.1 42 59.3 42 66.1 43 77.2 43 70.3 43 TUNNEL ATTITUE	45.1 421.5 0.00 59.3 427.2 0.00 66.1 430.7 0.00 77.2 435.1 0.00 70.3 439.5 0.00 TUNNEL TEST CON ATTITUDE	45.1 421.5 0.0207 6.7 59.3 427.2 0.0206 6.7 66.1 430.7 0.0206 6.7 77.2 435.1 0.0205 6.7 70.3 439.5 0.0208 6.7 CUNNEL TEST CONDITIONS ATTITUDE	45.1 421.5 0.0207 6.77 4 0.77743  59.3 427.2 0.0206 6.77 3 0.96036  66.1 430.7 0.0206 6.77 2 1.29503  77.2 435.1 0.0205 6.77 1 1.37870  70.3 439.5 0.0208 6.77  TUNNEL TEST CONDITIONS 0 7.4  ATTITUDE	45.1 421.5 0.0207 6.77 4 0.77743 7 0.98011 59.3 427.2 0.0206 6.77 3 0.96036 8 0.98842 66.1 430.7 0.0206 6.77 2 1.29503 9 0.98530 77.2 435.1 0.0205 6.77 1 1.37070 10 0.97075 70.3 439.5 0.0208 6.77  TUNNEL TEST CONDITIONS 0 7.474 PT 1 ATTITUDE	45.1 421.5 0.0207 6,77 4 0.77743 7 0.98011 12 0.96348 59.3 427.2 0.0206 6.77 3 0.96036 8 0.98842 13 0.93386 66.1 430.7 0.0206 6.77 2 1.29503 9 0.98530 14 1.00817 77.2 435.1 0.0205 6.77 1 1.37870 10 0.97075 15 1.00505 70.3 439.5 0.0208 6.77  TUNNEL TEST CONDITIONS 0 7.474 PT 18.000 PS ATTITUDEALPHA 0.00 BETA 0.00 BETA 0.00 BETA 0.00	45.1 421.5 0.0207 6.77 4 0.77743 7 0.98011 12 0.96348 17 1.05182 59.3 427.2 0.0206 6.77 3 0.96036 8 0.98842 13 0.93386 18 1.01181 66.1 430.7 0.0206 6.77 2 1.29503 9 0.98530 14 1.00817 19 1.00297 77.2 435.1 0.0205 6.77 1 1.37870 10 0.97075 15 1.00505 20 0.99777 70.3 439.5 0.0208 6.77 21.29503 9 0.98530 14 1.00817 19 1.00297 77.2 435.1 0.0205 6.77 1 1.37870 10 0.97075 15 1.00505 20 0.99777 70.3 439.5 0.0208 6.77 21 1.37870 10 0.97075 15 1.00505 20 0.99777 70.3 439.5 0.0208 6.77 21 0.97439 70.443 ATTITUDE	45.1 421.5 0.0207 6.77 4 0.77743 7 0.98011 12 0.96348 17 1.05182 24 1.0008059.3 427.2 0.0206 6.77 3 0.96036 8 0.98842 13 0.93386 18 1.01181 25 0.9198066.1 430.7 0.0206 6.77 2 1.29503 9 0.98530 14 1.00817 19 1.00297 26 0.9998077.2 435.1 0.0205 6.77 1 1.37870 10 0.97075 15 1.00505 20 0.99777 27 1.0149070.3 439.5 0.0208 6.77 2 1.29503 9 0.97075 15 1.00505 20 0.99777 27 1.0149070.3 439.5 0.0208 6.77 2 1.37870 10 0.97075 15 1.00505 20 0.99777 27 1.0149070.3 439.5 0.0208 6.77 2 1.00505 20 0.99777 27 1.0149070.3 439.5 0.0208 6.77 2 1.00505 20 0.99777 27 1.0149070.3 439.5 0.0208 6.77 2 1.00505 20 0.99777 27 1.0149070.3 439.5 0.0208 6.77 21 0.97439 28 1.02220070.3 439.5 0.0208 6.77 2 1.00505 20 0.99777 27 1.0149070.3 439.5 0.0208 6.77 2 1.00505 20 0.99777 27 1.0149070.3 439.5 0.0208 6.77 2 1.00505 20 0.99777 27 1.0149070.3 439.5 0.0208 6.77 2 1.00505 20 0.99777 27 1.0149070.3 439.5 0.0208 6.77 2 1.00505 20 0.99777 27 1.0149070.3 439.5 0.0208 6.77 2 1.00505 20 0.99777 27 1.0149070.3 439.5 0.0208 6.77 2 1.00505 20 0.99777 27 1.0149070.3 439.5 0.0208 6.77 2 1.00505 20 0.99777 27 1.0149070.3 439.5 0.0008 6.77 2 1.00505 20 0.99777 27 1.0149070.3 439.5 0.0008 6.77 2 1.00505 20 0.99777 27 1.0149070.3 439.5 0.0008 6.77 2 1.00505 20 0.99777 27 1.0149070.3 439.5 0.0008 6.77 2 1.00505 20 0.99777 27 1.0149070.3 439.5 0.0008 6.77 2 1.00505 20 0.99777 27 1.0149070.3 439.5 0.0008 6.77 2 1.00505 20 0.99777 27 1.0149070.3 439.5 0.0008 6.77 2 1.00505 20 0.99777 27 1.0149070.3 439.5 0.0008 6.77 2 1.00505 20 0.99777 27 1.0149070.3 439.5 0.0008 6.77 2 1.00505 20 0.99777 27 1.0149070.3 439.5 0.0008 6.77 2 1.00505 20 0.99777 27 1.0149070.3 439.5 0.0008 6.77 2 1.00505 20 0.99777 27 1.0149070.3 439.5 0.0008 6.77 2 1.00505 20 0.99777 27 1.0149070.3 439.5 0.0008 6.77 2 1.00505 20 0.99777 27 1.0149070.3 439.5 0.0008 6.77 2 1.00505 20 0.99777 27 1.0149070.3 439.5 0.0008 6.77 2 1.00505 20 0.0008 6.77 2 1.00505 20 0.0008 6.70 2 1.00505 20 0.0008 6.70 2 1.00505 20 0.0008 6.70 2 1.00505 20 0.0008 6.70 2 1.00505 20 0.0008 6.70 2 1.00505 20 0.0008 6.70 2	45.1 421.5 0.0207 6.77 4 0.77743 7 0.98011 12 0.96348 17 1.05182 24 1.00089 36 1.01181 59.3 427.2 0.0206 6.77 3 0.96036 6 0.98842 13 0.93386 18 1.01181 25 0.91982 31 0.98115 66.1 430.7 0.0206 6.77 2 1.29503 9 0.98530 14 1.00817 19 1.00297 26 0.99985 32 0.99726 77.2 435.1 0.0205 6.77 1 1.37870 10 0.97075 15 1.00505 20 0.99777 27 1.01492 33 0.98426 70.3 439.5 0.0208 6.77 2 1.37870 10 0.97075 15 1.00505 20 0.99777 27 1.01492 33 0.98426 70.3 439.5 0.0208 6.77 21 0.97439 28 1.02220 70.3 439.5 0.0208 6.77 21 0.97439 28 1.02220 70.3 439.5 0.0208 6.77 21 0.97439 28 1.02220 70.3 439.5 0.0208 6.77 21 0.97439 28 1.02220 70.3 439.5 0.0208 6.77 21 0.97439 28 1.02220 70.3 439.5 0.0208 6.77 21 0.97439 28 1.02220 70.000	45.1 421.5 0.0207 6.77 4 0.77743 7 0.98011 12 0.96348 17 1.05182 24 1.00089 30 1.01181 41 1.41351 59.3 427.2 0.0206 6.77 3 0.96036 8 0.98842 13 0.93386 18 1.01181 25 0.91982 31 0.98115 42 0.82005 66.1 430.7 0.0206 6.77 2 1.29503 9 0.98530 14 1.00817 19 1.00297 26 0.99985 32 0.99726 39 0.80705 77.2 435.1 0.0205 6.77 1 1.37870 10 0.97075 15 1.00505 20 0.99777 27 1.01492 33 0.98426 40 0.82992 70.3 439.5 0.0208 6.77 2 1.00505 20 0.997439 28 1.02220  TUNNEL TEST CONDITIONS 0 7.474 PT 18.000 PS 7.443 R/L 5.5 MACH 1.198 TEMP ATTITUDE

TECT	5-5	2110	ラスマノロ

ASEC TRISCAIC WINE	TURNEL	HUNTSVILLE,	ALASAMA
PLUME TECHNOLOGS	TEST	NON-QUIESCERT	PHASE

27 AUGUST 1973

ORIGINAL: PAGE IS OF POOR QUALITY

A-313

<u></u>	27 AUGUST	1973			RISCRIC HIS E TECHNOLOG	Y TESTNO	N-GUIESCENT			1631 -7-	
			070					GREES FAHRE	WHEIT	cheo-pips	TCH
	FRAME	PSA	PTC	SKIN[1]	S41N[2]	2K1v[3]	SKIN[4]	- · ·		· ·	
	1	7,39	1918.21	1911.4	97.5	1,0.1	99,3	5.0	225.4	431.5	403.6
		<u>7</u> .45	1938.74	1934.5	98.4	99.7	101.9	0.0	237.1	440.9	412.7
	3	7.39	1910.31	1966.6	99.3	100.6	104.5	3.0	247.5	446.7	419.2
	4	7.41	1931.89	1923.5	98.8	100-1	107-1	0.0	256.6	456.5	426.1
	5	7.40	1898,21	1893.5	99.7	100.6	110.1	0.0	264.9	462.1	430.5
	6	7.40	1901.89	1893.5	99.7	99.7	111.9	0.0	272.7	466,5	434.4
	FR PTC	TC P47/	PTC PORT-22	ND PSM/PSA	NO PSM/PSA	NO PSM/PSA	NO PSM/PSA	NO PSM/PSA	NO PSM/PSA	NO PSM/PSA	NO PSM/PS/
	-	407.0 8.0							29 1.04062		
<del></del>		-	-3	<del></del>					30 1.02284		
		416.6 0.0							31 0,99356		
		423.7 0.0	<u>-</u> _						32 1.00088		
		430.7 0.0									
		435,1 0.0			10 0.97421	15 1.00011			33 0.99565	40 8.00045	43 0,0702
	6 1902.9	438,6 0.0	204 6,87				21 0.98153	28 1.01970			
			NDITIONS		85 PT 1	7.996 PS		R/L 5.5	MACH 1	.202 TEMP	100.3
	AVERAGE H	DDEL/NOZZLI	E PARAMETERS	S. PTC= 191	6.9 TC	425.3	PTC/PSA=	259.15	PSMÉ221/PSA: ATUMEN 515.	0.9298	
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	27 AuguST	1973		PLJ	RISCNIC MIN E TECHNOLOG	Y TESTNO	HUNTSVILLE, N-QUIESCENT	PHASE			
							E DATADE	GREES FAMMEN SKIN(5) MOI	HETT	Enco-p196	TCH
<u>.</u>	FRAME	PSA	PTC	SKIN[1]	SKIV[5]	ŠĶINI31	SKIN[4]				374.6
	1	7,46	1906.63	1890.5	97.5	101.3	194.9	3 • 3	179.5	40 <u>0.1</u>	
	2	7,47	1917,68	1912.9	97.1	1,1.4	105.B	0.0	193,3	413,1	387.6
	3	7.47	1894.00	1892.9	96.7	101.0	185.7	0.0	206.8	424.6	398.8
	4	7.47	1891.37	1886.7	97.5	101.4	108.6	0.0	219.4	435.2	407.5
	5	7,47	1882,95	1877,2	96.7	101.4	110.6	0.8	229.8	442,6	413,6
	6	7.46	1882.95	1876.1	96,7	101.4	112.3	0+0	239.7	450.0	419,6
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			OTO DODT+2	2 40 PSM/PS	A NO PSM/PS/	NO PSM/PSA	NO PSH/PS	A NO PSY/PSA	NO PSM/PSA	NO PSH/PSA	NO PSH/PS
<u> </u>	FR PTC			E - 9074	4 4 n 945n4	L 41 n.99873	16 1.0629	9 23 1.04952	29 1.09668	34 1.91557	35 1.1505
<del></del>		378,4 0,0		9 (10970	0 0 00000	40 0 00456	47 1 4484	5 24 1.05470	30 1.07751	41 1.40869	36 1.0997
	2 1916.6	392.0 0.0	203 7.59	4 0.8669	8 / 1.04040	12 0,33430	40 4 0056	5 25 0.97748	31 1.07854	42 n.97903	37 1.1101
	3 1892.9	403.4 0.0	206 7.60	3 0,9494	9 8 1.1034	2 13 0.98681	10 1.0920	5 25 4 P7604	72 1 08321	39 n.95312	38 1.0256
	4 1894.0	411.4 0.0	206 7.60	2 1.3055	5 9 1.1039	4 14 0.9743	19 1.0950	5 26 1,03604	32 1 03543	40 0 07003	43 n 9588
	5 1684,0	417.5 0.0	<u> 7.60</u>	1 1,4055	8 10 1.0453	7 15 1.0210		8 27 1,06921		40 0,97700	10 34 1100
	6 1881,9	424.1 0.0	205 7,60	<u> </u>	::		21 1,0826	9 28 1.07854		<del>_</del>	
					461 PT	17.986 PS	7,463	R/L 5.5	HACH 1	195 TEHP	100.6
	MODEL ATT	TTUDE	ONDITIONS	ALPHA	0.02 BE	TA 0,00		0.0	P6H1221/P5A	- 1.6180	
		ABEL JUATTS	LE PARAMETER	JC	140-1 10	# 404.5 URE= 2100.	HEATER	TOTAL TEMPER	ATURE 515.		
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1     10.62     1907.66     1901.9     102.7     102.3     98.4     0.0     215.0     431.3     39       2     10.63     1906.63     1903.5     102.3     101.4     99.7     0.0     225.0     438.3     40       3     10.63     1904.53     1909.8     101.4     101.9     102.3     0.0     234.5     444.8     41       4     10.63     1675.58     1872.9     102.3     102.7     105.3     0.0     243.2     451.7     42       5     10.62     1873.47     1869.3     101.9     102.7     107.5     0.0     251.9     457.8     42	PORT-22 NO PSN/P 10.15 3 0.889	162.7 102.3 101.4 102.3 101.9 102.7 2SA NO PSM/PS 264 6 0.9800 97 7 0.9680	SKIN(3)  102.3  101.4  101.9  102.7  102.7  103.6  A NO PSM/PS  8 11 0.9589	98.4 99.7 102.3 105.3 107.5 110.1 A NO PSM/PSA 7 16 0.98518	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 2.0 2.0	215.0 225.0 234.5 243.2 251.9 260.1 NO PSM/PSA 29 1.00883	######################################	35 1.0
2 10.63 1906.63 1903.5 102.3 101.4 99.7 0.0 225.0 438.3 40 3 10.63 1904.53 1909.8 101.4 101.9 102.3 0.0 234.5 444.8 41 4 10.63 1675.58 1872.9 102.3 102.7 105.3 0.0 243.2 451.7 42 5 10.62 1873.47 1869.3 101.9 102.7 107.5 0.0 251.9 457.8 42 6 10.62 1833.47 1829.3 102.7 103.6 110.1 0.0 260.1 463.4 43  FR PTC TC P47/PTC PORT-22 NO PSM/PSA NO P	PORT-22 NO PSN/P  10.15 3 0.889	102.3 101.4 102.3 101.9 102.7 25A NO PSM/PS 154 6 0.9800 197 7 0.9680	101.4 101.9 102.7 102.7 103.6 A NO PSM/PS 8 11 0.9589	99.7 102.3 105.3 107.5 110.1 A NO PSM/PSA 7 16 0.98518 7 17 1.00956	0.0 0.0 0.0 0.0 0.0 0.0 0.0 2.0 95752	225.0 234.5 243.2 251.9 260.1 NO PSM/PSA 2 29 1.00883	438.3 444.8 451.7 457.8 463.4 NO PSM/PSA 34 1.34766	40 41 42 43 43 NO PSM
3 10.63 1904.53 1900.8 101.4 101.9 102.3 0.0 234.5 444.8 41 4 10.63 1675.58 1872.9 102.3 102.7 105.3 0.0 243.2 451.7 42 5 10.62 1873.47 1869.3 101.9 102.7 107.5 0.0 251.9 457.8 42 6 10.62 1833.47 1829.3 102.7 103.6 11n.1 0.0 260.1 463.4 43  FR PTC TC P47/PTC PORT-22 NO PSM/PSA NO PSM/P	PORT-22 NO PSN/P  10.15 3 0.889	101.4 102.3 101.9 102.7 25A NO PSM/PS 164 6 0.9800 197 7 0.9680	101.9 102.7 102.7 103.6 A NO PSM/PS 8 11 0.9589	102.3 105.3 107.5 118.1 NO PSM/PSA 7 16 0.98518	0.0 0.0 0.0 0.0 0.0 0.0 2.0 2.0 2.0 2.0	234.5 243.2 251.9 260.1 NO PSM/PSA 29 1.00883	444.8 451.7 457.8 463.4 NO PSM/PSA 34 1.34766	41 42 43 43 NO PSM 35 1.0
4 10.63 1675.58 1672.9 102.3 102.7 105.3 0.0 243.2 451.7 42 5 10.62 1873.47 1869.3 101.9 102.7 107.5 0.0 251.9 457.6 42 6 10.62 1833.47 1829.3 102.7 103.6 11n.1 0.0 260.1 463.4 43  FR PTC TC P47/PTC PORT-22 NO PSM/PSA NO	75.58 1872.9 173.47 1869.3 133.47 1829.3 PORT-22 NO PSM/P 10.14 5 0.998 10.15 4 0.954 10.15 3 0.889	102.3 101.9 102.7 2SA NO PSM/PS 264 6 0.9800 97 7 0.9680	102.7 102.7 103.6 A NO PSM/PS 8 11 0.9589	107.5 107.5 110.1 A NO PSM/PSA 7 16 0.98518 7 17 1.00956	0.0 0.0 0.0 0.0 NO PSM/PS/ 23 0.95752	243.2 251.9 260.1 NO PSM/PSA 29 1.00883	451.7 457.8 463.4 NO PSM/PSA 34 1.34766	42: 43: NO PSM 35 1.0
5 10.62 1873.47 1869.3 101.9 102.7 107.5 0.0 251.9 457.8 42 6 10.62 1833.47 1829.3 102.7 103.6 11n.1 0.0 260.1 463.4 43  FR PTC TC P47/PTC PORT-22 NO PSM/PSA NO PSM/	PORT-22 NO PSN/P  10.14 5 0.998  10.15 4 0.954  10.15 3 0.889	101.9 102.7 25A NO PSM/PS 164 6 0.9800 197 7 0.9680 183 8 0.9895	102.7 103.6 A NO PSM/PS 8 11 0.9589 7 12 0.9680	107.5 110.1 A NO PSM/PSA 7 16 0.98518 7 17 1.00956	0.0 0.0 0.0 NO PSM/PS/ 23 0.95752 24 0.96735	251.9 260.1 A NO PSM/PSA 2 29 1.00883 5 30 1.00192	457.8 463.4 NO PSM/PSA 34 1.34766	42 43 NO PSM 35 1.0
6 10.62 1833.47 1829.3 102.7 103.6 110.1 0.0 260.1 463.4 43  FR PTC TC P47/PTC PORT-22 NO PSN/PSA NO PSM/PSA N	PORT-22 NO PSM/P 10.14 5 0.998 10.15 4 0.954 10.15 3 0.889	102.7 SA NO PSM/PS 164 6 0.9800 197 7 0.9680	103,6 A NO PSM/PS 8 11 0.9589 7 12 0.9680	110.1 A NO PSM/PSA 7 16 0.98518 7 17 1.00956	0.0 NO PSM/PSA 23 0.95752 24 0.96735	260.1 NO PSM/PSA 29 1.00883	463,4 NO PSM/PSA 34 1,34766	43 NO PSM 35 1.0
FR PTC TC P47/PTC PORT-22 NO PSM/PSA NO PSM/	PORT-22 NO PSM/P 10.14 5 0.998 10.15 4 0.954 10.15 3 0.889	SA NO PSM/PS 164 6 0.9800 197 7 0.9680 183 8 0.9895	A NO PSM/PS 8 11 0.9589 7 12 0.9680	A NO PSM/PSA 7 16 0.98518 7 17 1.00956	NO PSM/PS/ 23 0.95752 24 0.96735	NO PSM/PSA 2 29 1.00883 3 1.00192	NO PSM/PSA 34 1,34766	NO PSM
1 1909.3 402.6 0.0203 10.14 5 0.99864 6 0.98008 11 0.95897 16 0.98518 23 0.95752 29 1.00883 34 1.34766 35 1.0 2 1902.9 412.2 0.0204 10.15 4 0.95497 7 0.96807 12 0.96807 17 1.00956 24 0.96735 30 1.00192 41 1.13803 36 1.0 3 1901.4 415.8 0.0204 10.15 3 0.88983 8 0.98955 13 0.97171 18 0.99646 25 0.95497 31 0.99719 42 0.95970 37 1.0 4 1876.6 425.9 0.0207 10.16 2 1.08708 9 0.98409 14 0.97572 19 0.99464 26 0.97572 32 0.99355 39 0.94405 38 0.9 5 1876.1 430.3 0.0205 10.13 1 1.16060 16 0.96698 15 0.98955 26 0.98955 27 0.99428 33 0.98227 40 0.94660 43 u.9 6 1833.5 435.6 0.0207 10.13 21 0.97972 28 0.99682  WIND TUNNEL TEST CONDITIONS 0 6.087 PT 17.994 PS 10.628 R/L 5.1 MACH 0.901 TEMP 100.1 MODEL ATTITUTE	10.14 5 0.998 10.15 4 0.954 10.15 3 0.889	64 6 0.9800 97 7 0.9680 83 8 0.9895	8 11 0.9589° 7 12 0.9680°	7 16 0.98518 7 17 1.00956	23 0.95752	29 1.00883	34 1,34766	35 1.0
2 1982.9 412.2 0.0204 10.15 4 0.95497 7 0.96887 12 0.96807 17 1.00956 24 0.96735 30 1.00192 41 1.13803 36 1.0 3 1901.4 410.8 0.0204 10.15 3 0.88983 8 0.98955 13 0.97171 18 0.99646 25 0.95497 31 0.99719 42 0.95970 37 1.0 4 1876.6 425.9 0.0207 10.16 2 1.08708 9 0.98409 14 0.97572 19 0.99464 26 0.97572 32 0.99355 39 0.94405 38 0.9 5 1876.1 430.3 0.0205 10.13 1 1.16960 16 0.96698 15 0.98955 26 0.98955 27 0.99428 33 0.98227 40 0.94660 43 u.9 6 1833.5 435.6 0.0207 10.13	10.15 4 0.954 10.15 3 0.889	97 7 g.968g 83 8 g.9895	7 12 0.9680	7 17 1.00956	24 0,96735	30 1.00192		
3 1901.4 415.8 0.0204 10.15 3 0.88983 8 0.98955 13 0.97171 18 0.99646 25 0.95497 31 0.99719 42 0.95970 37 1.0 4 1876.6 425.9 0.0207 10.16 2 1.08708 9 0.98409 14 0.97572 19 0.99464 26 0.97572 32 0.99355 39 0.94405 38 0.9 5 1876.1 430.3 0.0205 10.13 1 1.16060 10 0.96698 15 0.98955 20 0.98955 27 0.99428 33 0.98227 40 0.94660 43 0.9 6 1833.5 435.6 0.0207 10.13 21 0.97972 28 0.99682  HIND TUNNEL TEST CONDITIONS 0 6.087 PT 17.994 PS 10.628 R/L 5.1 MACH 0.901 TEMP 100.1 MODEL ATTITUTE	10.15 3 0.889	83 8 0.9895					41 1.13803	36 1.0
4 1876.6 425.9 8.0207 10.16 2 1.08708 9 0.98409 14 0.97572 19 0.99464 26 0.97572 32 0.99355 39 0.94405 38 0.9 5 1876.1 430.3 0.0235 10.13 1 1.16960 16 0.96698 15 0.98955 26 0.98955 27 0.99428 33 0.98227 40 0.94660 43 u.9 6 1833.5 435.6 0.0207 10.13 21 0.97972 28 0.99682  HIND TUNNEL TEST CONDITIONS 0 6.037 PT 17.994 PS 10.628 R/L 5.1 HACH 0.901 TEHP 100.1 HODEL ATTITUDE	·		5 13 0.9717	l 18 0.99646	AF - AF			
5 1876.1 430.3 0.0205 10.13 1 1.16060 16 0.96698 15 6.98955 26 0.98955 27 0.99428 33 0.98227 40 0.94660 43 0.9 6 1833.5 435.6 0.0207 10.13 21 0.97972 28 0.99682  Hind Tunnel Test Conditions 0 6.037 PT 17.994 PS 10.628 R/L 5.1 MACM 0.901 TEMP 100.1 MODEL ATTITUDEALPHA 0.02 BETA 0.00 ROLL 0.0 AVERAGE MODEL/NOZZLE PARAMETERS., PTG= 1883.3 TC= 420.9 PTC/PSA= 177.20 PSM(221/PSA= 0.9542	10.16 2 1.087				25 0.95497	31 0.99719	42 0.95970	37 1.0
6 1833.5 435.6 0.0207 10.13 21 0.97972 28 0.99682  HIND TUNNEL TEST CONDITIONS D 6.087 PT 17.994 PS 10.628 R/L 5.1 MACH 0.901 TEMP 100.1 MODEL ATTITUDE ALPHA 0.82 BETA 0.00 ROLL 0.0 AVERAGE MODEL/NDZZLE PARAMETERS., PTG= 1883.3 TC= 420.9 PTC/PSA= 177.20 PSM(221/PSA= 0.9542		UO 7 0.7840	9 14 0,9757	2 19 0.99464	26 0.97572	32 0.99355	39 0.94405	38 0.9
WIND TUNNEL TEST CONDITIONS 0 6.087 PT 17.994 PS 10.626 R/L 5.1 MACH 0.901 TEMP 100.1 MODEL ATTITUTE ALPHA 0.02 BETA 0.00 ROLL 0.0 AVERAGE MODEL/NDZZLE PARAMETERS., PTG= 1883.3 TC= 420.9 PTC/PSA= 177.20 PSM(221/PSA= 0.9542	10.13 1 1.169	60 16 0.9669	8 15 6.9895	5 2G 0.98955	27 0.99428	33 0.98227	40 0.94660	43 0.9
MODEL ATTITUDE	10.13			21 0,97972	28 0.99682			
	RAMETERS. PTC= 1	0.02 BE 883.3 TC	TA 0.00 * 420.9	ROLL 0	.0 177.20	PSH(221/PSA		100.1
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	í	10.13  IONS Q 6 ALPHA RAMETERS PTC= 1	10.13  IONS Q 6.037 PT ALPHA 0.02 BE RAMETERS., PTC= 1883.3 TC	10.13  IONS 0 6.037 PT 17.994 PS ALPHA 0.02 BETA 0.00  RAMETERS., PTC= 1883.3 TC= 420.9	10.13 21 0.97972  10NS Q 6.037 PT 17.994 PS 10.626  ALPHA 0.02 BETA 0.00 ROLL 0  RAMETERS., PTC= 1883.3 TC= 420,9 PTC/PSA=	10.13 21 0.97972 28 0.99682 10NS 0 6.037 PT 17.994 PS 10.628 R/L 5.1 ALPHA 0.02 BETA 0.00 ROLL 0.0 RAMETERS., PTC= 1883.3 TC= 420.9 PTC/PSA= 177.20	10.13 21 0.97972 28 0.99682  10NS 0 6.037 PT 17.994 PS 10.626 R/L 5.1 MACH 0  10NS ALPHA 0.02 BETA 0.00 ROLL 0.0  RAMETERS., PTC= 1883.3 TC= 420.9 PTC/PSA= 177.20 PSM(221/PSA	10.13 21 0.97972 28 0.99682  10.14 21 0.97972 28 0.99682  10.15 21 0.97972 28 0.99682  10.15 21 0.97972 28 0.99682  10.15 21 0.97972 28 0.99682  10.15 21 0.97972 28 0.99682  10.15 21 0.97972 28 0.99682  10.15 21 0.97972 28 0.99682  10.15 21 0.97972 28 0.99682  10.15 21 0.97972 28 0.99682  10.15 21 0.97972 28 0.99682  10.15 21 0.97972 28 0.99682  10.15 21 0.97972 28 0.99682  10.15 21 0.97972 28 0.99682  10.15 21 0.

	27 406051			PŁU	4E TECHNOLOG	Y TESTNO	A-OUTESCEN	( PHRSE			
							E DATAD Skin(4)	EGREES FAHRE SKINIST HO	NHEIT DEL-STING FE	EDER-PIPE	TCH
	FRAF	ួខទីត	PTC	SKINLTI	SKIN[S]	24 [ 4 [ 3 ]		=	218.9	431.0	401.9
		10.69	1887.68	1887.2	125.3	133.5	134.8	0.0		439.1	410.1
	2	10.61	1899.26	1894.5	125.7	132.2	134.4	6 + 0	228,9		417.9
	3	10.60	1897.16	1893.5	124.4	131.4	135.3		239.7	447.5	
	4	10.52	1683.47	1877.7	122.3	129,2	135.3	0.0	248.0	453,4	423,5
	ō	10.62	1877.16	1870,3	122.7	128.3	136.1	0.0	255,8	459,5	428,7
	6	10.62	1844.53	1842.4	121.4	127.5	135.3	3.0	263.1	463.4	430.9
	<u></u>									<u>,</u>	
					A NO PSM/PS	A NO PSM/PS/	NO PSM/PS	SA NO PSH/PS	NO PSM/PSA	NO PSM/PSA	NO PSH/PSA
	FR PTC			E 0 0073	A A D DRAZ	4 11 0.9561	16 0.983	52 23 0.9576	29 1.00722	34 1,35863	35 1.04003
		402.6 0.0		2 0.7773		n 40 a 0600	17 1.0050	3 24 0.9609	2 30 0.99993	41 1;18127	36 1,03383
	2 1902.9	414,9 0.0	205 10,13	4 0,9529	7 0.9003	9 12 0,9020	10 0 003	27 25 n o514	4 31 0.99592	42 0.96092	37 1,02326
	3: 1896,6	422,4 0.0	206 10,13	3 0,8851	.0 8 0.9868	0 13 0,9689	10 0.993	0 EJ U. 772.	72 6 99337	39 n 94415	38 0.96712
	4 1882,4	427,6 0,0	207 10,13	2 1,0859	6 9 g.9806	1 14 0,9733	2 19 0,991	91 26 0.9733	2 32 0.99337	40 0 04889	43 n 954nn
	5 1876,1	432,9 8,6	206 10,12	1 1,1603	52 10 0.9638	14 15 0,9871			7 33 0.98279	40 0.54005	22. 20
	6 1841.9	435,6 0,0	0207 10.10				21.0,978	78 28 0.9951	9		
			- ·								
	MAIN : THE	iei Test Ci	ONDITIONS	0 6		17.988 PS		R/L 5.1	MACH D	.902 TEMP	100.6
	MODEL ATT	TITUDE		ALPHA	0.02 88	ETA 0.00 C= 423,2	ROLL PTC/PSA= NEATER	0.0 177.26 104AL TENPE	PSM(22)/PSA RATURED 510.	<b>e 0.9538</b>	
	HEATER 'PA	trameters,	LE PARAMETER	HEATER	LAINT SUCE						<u> </u>
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FRAHE	PSA	PTC	SKIN[1]	SKIHIZI	ZKIM(2)	SKIN[4]		DEL-STING FE		TCH
1	10.58	1575.05	1567.7	97.1	108.8	118.4	0.0	224.1	458.7	400.
<u>s</u> .	10.58	1564.80	1556.6	98,8	109.7	119.7	0.0	235.0	460.8	412.
3	10,56	1567,68	1563.5	95.4	108,4	120.1	0.0	242.3	462.6	418.
4	10.58	1570.31	1567.7	99.7	108.8	121.8	0.0	251.4	465.6	423.:
5	10,57	1575,58	1569.8	98.0	108.4	122.7	0.0	257.1	466.9	427,4
. 6	10.57	1576,63	1569.8	99.7	108,4	124.0	0.0	263.6	469,9	430.
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FR PT	C 1C P47.	/PTC PORT-2:			<del></del>				·	
1 1577	.2 410.0 Q.	<u>1204 9.83</u>	5 1.0000	6 6 0.98931	11 0.95727	16 0.98324	23 0.95763	29 1.00372	34 1.35049	35 1.0421
2 1566	.6 417.1 8.1	<u>1205 9.84</u>	4 0.9558	0 7 0.96714	12 0.96531	17 1.00555	24 0.96422	30 0.99531	41 1.09371	36 1.0348
3 1567	.2 423.2 0.1	9,84	3 0,8848	4 8 0.98836	13 0.96970	18 0.99165	25 0.95178	31 0.98909	42 0.92581	37 1.021
4 1569	.3 427.6 0.1	9,86	2 1.0904	1 9 0.98324	14 0.97373	19 0.98872	26 0.97336	32 8.98434	39 0.91337	38 g.9441
5 157B	.2 431.6 0.1	205 9,85	1 1,1646	7 10 0.96605	15 0.98799	26 0.98287	27 0.99238	33 0.96897	40 0.91740	43 0.9236
6 1574	,5 435,1 0,0	206 9,85				21 0.96897	28 0,99421	1.1.2° · · · · · · · · · · · · · · · · · · ·		
		ONDITIONS			8.050 PS		R/L 5.1	MACH 8.	906 TEMP	100.3
		E PARAMETERS		0.02 BET 72.2 TC=	A 0.00 424.1	ROLL 0	1.0 148.68	PSM(22)/PSA=	8.9310	
					RE# 1700.	HEATER T	OTAL TEMPER	ATURE= 510.		

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	FRAME		PSA		PTC	SK	[N(1)	SKIN	_	SKIVI -TEMPE		DATA[ Skin[4]	SKI	S FAHRE	DEL-ST	ING FE	ECER	-PIPE	-	TCH
	1		10.59	1	173.47	1	169.8	10	7.5	199	.3	113.2		0.0	17	6.4		493.8		393.
	2		10.59	) 1	186.63	1	185.1	10	7.5	136	4	114.		0.3	16	8.6		486.J		398.
	3		10.6	1	188.21	1	182,9	10	7.1	108	3.4	114.9		0.0	19	9.4		479.5		402.
	4		10.6	: 1	188.74	1	184,5	1.0	7.5	108	8,8	115.8		0.0	20	9.4		476.4		406.
	5		10.5	1	205.58	1	201.4	10	8.4	109	3.3	117.9		0.0	21	7.2		473.8		409.
	5		10.6	<u>. 1</u>	198.74	1	192,9	10	07.5	100	3.8	118.8		0.0	22	5.9		472,1		413,
	FR PTC	•	to P	47/PT0	PORT-2		PSM/PSA	NO F	PSH/PSA	NO P	 BM/PSA	NO PSM/P	SA NO	PS#/PSA	NO PS	M/PSA	NO P	SH/PSA	NO	- PSM/I
	1 1172.											16 0.979								
,	2 1184.											i7 0.998								
	3 1188.											18 0.986								
	4 1188.											19 0,979								
	5 1205.					) 1	1.15987	7 10 (	0.96352	2 <b>1</b> 5 0	98359	20 0.971	54 27	0.9887	33 0.	95111	40 C	.87118	43	0.87
	6 1198.					5						21 0,954	76 28	0.9912	; 	<del></del>				
	WŽÁĎ, TUR MOĎEL ÁT	NE	TEST	COND	TIONS		Q 6.0	0.0	PT 1	18.007	PS	10,598 ŘOLL	R/L	5.1			904		, <u>i</u>	00.5
	AMERAGE HEATER	MARK	CI JMA	タケし に 「日	PADAMETRI	Je	OTCS: 111	80.6	TC=	<b>407</b>	.6 300.	PTC/PSA= HEATER	112 112	.25 L TENPEI	PSH122 RXTURES	1776A 17510.	* 0,1	964		
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	FRA	HE	PSA		PTC	SK	([N[1]	Ski	N[2]	2K1v121	SK	[N[4]]	SKI	N[5] MO	EL-ST	NG FE	FDFH	- PIPE	···· '	CH
		1	1:.	75	636,21		<b>335.6</b>		98.5	106.7		117.5		0.0	202	2 • 0		454,7	3	. 68 <i>8</i>
<del>,</del>		Ž	16.	75	646.13		843,5		99.7	106.2		117.1		0.0	209	,4		479.9	3	93.
		3	10.		852.95		850,3		99,7	107.1		118.4		0.0	21	5.5		476,4		395.
		4	12.		856,63		854.0		98.8	105.8		118.8		0,0	22:	2.0		473.0	3	398.
		5	10.		856,10		851.9		99.7	106.2		119.7		0.0	22	3.0		471.2		4 <u>61.</u>
		6	10.		861.37		857.2	1	100-1	106.2		128.5		0.0	23:	2.8		469.5		404,
	FR	PTC	TC	P47/PT	PORT-	22 NO	O PSM/PSA	NO	PSH/PSA	NO PSM/P	SA NO	PSH/PSA	NO	PSM/PSA	NO PS	M/PSA	NO F	547424	NU P	
	1	838,7	393,3	0.020	5 - 9 4					11 0,965										
	2	843.5	396.4	0,020	9.4					12 0,970										
	3	851.9	399.5	0.020	9,4					13 0.975										
	4	853,5	402.1	0.020	5 9,3					14 0.966										
	5	856,1	406.1	0.020	6 9,3	4 :	1 1,15333	10	0.96105	15 0.980	17 20	0.96213	27	0.98522	33 8.	93832	4 C	82937	43 0	83
	6_	862.9	407.8	0,020	6 9,3	5			·		2:	0.94048	3 28	0,98630						
	สเพ	D TUNN	EL. TES	T COND	ITIONS.			99				10.722	R/L	5.1	MACH	0	894	TEMP	99	, 5
	MOD	EL ATT	TTUDE.	07716	DADAMETE		ALPHA PICE SE	0. 51.1 70TA	TC≠	A 0.00 400.9 RE= 900.	Pi	OLL TC/PSA# HEATER	`79	.38 _ TEMPER	PSM(22 AYURE=	1/PSA:	= 0,	3756		
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	RAME	PSA	PTC	SKIN[1]	SKINIZI	SKIN(3)	E DATADE SKIN[4]	GREES FAMRE SKIN[5] MO	NHEIT DEL-STING F	EEDER-PIPE	TC
		16,65	481,37	478.2	91.0	92.3	93.2	5.0	98.8	183.0	19
	2	10.67	483,47	481.4	91.5	92.3	93.6	<u>5.0</u>	104.9	213.3	21
FR	PTC	TC P47/P	TC PORT-22	NO PSM/PS/	NO PSH/PS	A NO PSH/PSA	NO PSM/PSA	NO PSM/PSA	NO PSM/PSA	NO PSM/PSA	NO PSA
1	481.4	199.7 0.01	90 9.28	5 0.99548	6 8.9795	2 11 0.95775	16 0.97734	23 0.95666	29 0.99439	34 1.25378	35 1.0
2	480.3	205.4 0.01	91 9.28	4 0.95050	7 0.9661	0 12 0.96392	17 0.99621	24 0.96610	30 B.98569	41 1.14096	36 1.6
3	480.8	289.0 0.01	92 9.28	3 0.88628	8 0.9875	0 13 0,96755	18 0,98242	25 0,95267	31 0.97589	42 0,82388	37 1.
4	481.4	212.9 0.01	92 9.30	2 1.08037	7 9 0.9813	3 14 0.97081	19 0.97662	26 0.97081	32 0.96682	39 0.82316	35 0.
5	478.2	216.4 0.01	94 9,28	1 1.1551	L 10 0.9668	2 15 0,98468	20 0.96573	27 0,98968	33 0.94179	40 0.82171	43 0.
6	482.4	220.4 0.01	92 9,29		• —		21 0.94324	28 0.99077			
HQ	BEL ATT	17UDE	PARAMETERS	ALPHA	6,00 BE	18.011 PS ETA 0.00 := 210.6 SURE= 900.	PTC/PSA=	.0 45.09 OTAL TEMPE	RSRIZZI/PS/ ATUREX 530	A= 0.8709	

	27 AUGUST	1973		÷sf¢ t PLU™	RISONIC #15 E TECHNOLOG	O TUNNEL Y TESTNO	HUNTSVILLE, N-QUIESCENT			TEST 575	
						-TEMPERATUP	F DAYADE	GREES FAHRE	NHEIT		
	FRAME	PSA	PTC	SKIN[1]	SKIN[2]	SKIN(3)	SKIN[4]		DEL-STING F		TCH
	1	16,74	503.47	501.9	115.8	119.2	131.2	0+0	222.6	449,5	382,4
	2	16,75	506,63	504.0	116.6	120.5	131.4	0.0	228.9	450,0	385.4
	3	10.74	504.00	501.9	16.6	119.2	131.4	0.0	229.8	450.0	385.8
	4	10.75	508,74	506.6	117,5	119.7	132.2	0.0	231,5	450.8	387.1
	5	10,74	504.00	502.4	117.5	118.8	132.?	0.0	235.4	451.3	389.7
,	6	10.75	508.74	506.6	115.8	119.2	132.7	0 • 0	235,8	451.7	389.7
	FR PTC	TC P47/PT0	PORT-22	NO PSM/PSA	NO PSM/PSA	NO PSM/PSA	NO PSH/PSA	NO PSM/PSA	NO PSH/PSA	NO PSH/PSA	NO PSM/PS
	1 503.5	386,3 0,0205				. 11 0,96169					
	7 44	386.9 0.0205				12 0,96781			-		
		386.9 0.0206				13 0.96961			-· <del></del>		
		391.6 0.0205				14 0.97177			· ·		
		393.3 0.0208		-		15 0.98365					
		393,3 9,0206						28 0.98940			
	HODEL ATT	EL TEST CONDI		ALPHA	0.00 867	.B.017 PS		R/L 5.1 .0 47.03	MACH 0 PSH{22]/PSA		100.0
	HEATER PAI	RAME <b>TERS</b>		HEATER T	OTAL PRESSU	IRE≠ 900.		STAL TEMPER	ATURĖS-500,		
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		·														NO E	RATUR	אל הי	. T A =	n=	<u>ನಿವಿಕ</u> ್	re r	TUSE	Nuev	<b>.</b>						
	<b>F</b> R	AHE		PSA			PTO		SK	IN	1]	SK	IN	21		(IN(			NC4							G FE			PE		ŗc
		1		- ; ,	21	1	192.	91	1	191	. 9		116	.2		172	, 7	:	29.	3		0.	Ð		198.	1		569	1.0		43
• • • •		<u> </u>			21	1	193.	43	1	195	.0		1,1,4	.5		121	. 4	;	27.	9 .		0.			215.	0		556	2.		43
<del></del>		3		1.	<u>21</u>	1	179.	75	1	181	. 9		113	.2		120	•1	3	27.	9		٥.	00		230.	6		544	. 9		44
		4		1.	21	1	188.	17	1	186	.6		112	2.3		119	. 7	1	28.	8		€.	0		244.	5		535	i <b>.8</b>		44
		5		1.	21	1	202.	38	1	202	. 4		113	.2		116	.4	1	28.	3		0.	0		257.	9		529	.3		14
		6		_1.	21	1	210.	60	1	211	.3		112	.3		117	.5	1	29.	<u>6</u>		С.	0		269,	6		525	.4		15
	FR	PTC		TC	P47	/PTC	PO	RT-2:	2 NO	PS	⊬/Ps/	NO.	PS	H/PS	A NO	Ps	M/PSA	פע	PSM	/PSA	NO	PSH	/PSA	NO	PSN/	PSA	NO	PS4/	PSA N	10 P	5 H
	1	1192.	9 4	35.6	0.	0207		1.18	5	٥.	85356	5 6	Q.	8771	5 11	0.	95741	16	0.99	9117	23	0.9	5677	29	0.96	824	34	3,82	135 3	5 0	, 7
	ż	1192.	4 4	40.8	g.	0207		1.18	4	0.	80 <b>5</b> 16	7	0.	8898	9 12	_ <b>1</b> .	00646	17	0.99	9690	24	0.9	9244	30	0.97	078	41	3,82	135 3	6 g	9
<b></b>	3 :	1177,	6 4	44,4	٥,	<b>921</b> 0		1,18	3	1.	50204	8	٥,	9863	9 13	1.	00837	18	1,01	0454	25	0.9	6989	31	0.96	187	42	0,81	408 3	7 0	, 9
	4	1189.	7 4	47.9	0.	209		1,18	2	2.	64864	9	1.	0236	5 14	0.	97878	19	0.99	9435	26	0.9	7907	35	0.95	804	39	0.74	656 3	8 1	. 0
	5	1201.	9 4	53.2	0.	805		1.18	1	2,	80725	10	0.	9911	7 15	1.	2365	20	0.99	9881	27	1.0	0454	33	8.95	167	40	0.78	860 4	3 Ç	, <b>7</b>
	6	1210.	<u>8 4</u>	56,2	0.	208		1,18		<del></del>	74 ···						<u>.                                    </u>	21	0.99	9817	28	0.9	9499		<del></del>	<del></del>		<del></del> -	<del></del>		_
	-Wini	D TUN	MEL TTY	TES	T C	ND į	TON	s		Q ALP	10.2 HA	91			90.0		PS 00	1 POL	.21		R/L	į	0.7	НА	CH	3,	480	Ţ	EMP	99	7
	AVE	PAGE P	MOD	EL/N	OZZI	E P	RAM	ETER	S	PŤC	= 119	4.2		ŤC	4	46.		PTC	/PS/	45 %	¢33.				221/ Ep. 5	PSA=	0,	9724	- <del></del>	· <del></del> -	
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	29 AUGUST	1973	. <u></u>			ND TUNNEL BY TESTNO	HUNTSVILLE, N-QUIESCENT			TEST 575	RUN 547/0
,	FRANE	PSA	PTC	SKIN[1]	SKINE21	-TEMPERATUR	E DATADE	GREES FAHRE SKIN(5) MO	NHETY DEL-STING FE	EDER-PIPE	TCH
	1	1,21	1231.33	1232.9	127.9	132.7	150.0	0.0	557.5	729.2	564.0
	2	1.21	1217.12	1217.6	127.5	131.8	150.4	9+3	555.8	704.6	561.4
	3	1.21	1221.33	1220.3	128,3	132.7	150.9	0.0	555,3	682.3	561.0
	4	1.21	1214,49	1212.9	128.3	131.8	152,6	0+0	553.6	667.2	558.8
	5	1.21	1223,43	1225.5	127,5	131.4	153.5	0.0	551.4	652.0	557,5
	6	1.21	1212.91	1213.4	127.5	131.4	154.8	0.0	550.6	642.0	557.5
	FR PTC					NO PSM/PSA			•		
		570-2 0-0		132		11 0.95809			-		
	2 1218,2	568,0 0.0	213 1.18			2 12 1,00587					
(	3 1218.7	566.7 0.0	212 1.18			13 1.00841					
<del> </del>	4 1217.1	564.9 0.0	213 1.18			14 0.97338					
And the second s	5 1222,4	563,2 0,0	212 1,18	1 2.81948	10 0,9950	15 1,02689	20 0,99631	27 1.01160	33 0,95044	40 0.83323	43 0.79628
	6 1215.0	563.6 0.0	214 1.18				21 0,99567	28 1.90332			
			NDITIONS,.		91 PT (	0.027 PS		R/L 10.6	HACH 3,	480 TEMP	192.6
	AMERAGE HO	DBEL/NDZZLI	E PARAMETERS	PETC= 122	8+4 .TC	566.1	PTC/PSA= 1	D4.92 TALTTENPER	PSHIZZI/PSAN ATUREN 640.	0,9713	
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	28 August	1973		MSFC TE PLUME	TECHNOLOG	D TUNNEL F Y TESTNON	UNTSVILLE, I-OUIESCE T	PHASE		TEST 570	RUN 548/0
	FRAME	PSA	PTC	SKIN[1]	SKIN[2]	TTEMPERATURE SKIP (3)	DATADE	GREES FAHRE SKIN(5) MO	NHEIT DEL-STING FI	EDER-PIPE	TCH
***	1	5,1.	1245.58	1241.9	127.9	126.2	98.8	û <b>.</b> û	313.9	669.3	535.4
	5	5.09	1242,42	1230.2	125.3	120.1	101.0	0.4	321.7	652,4	535,8
	3	5.09	1246.63	1242.9	125.7	119.2	103.2	0.0	329.9	639.9	537.5
	4	5.12	1254,52	1249.8	124.4	117.9	106.7	0.0	335.5	629.9	537.5
	<del>-</del>	5.07	1259,26	1254.5	125,3	119.2	110.1	0.0	341.6	622.5	539.3
	6	5.09	1268.74	1264.5	124.0	117,5	113.2	0.0	346.4	616.4	538.8
	FR PTC	TC P47/	PTC PORT-2	2 NO PSM/PSA	NO PSH/PS/	NO PSM/PSA	NO PSH/PSA	NO PSH/PSA	NO PSM/PSA	NO PSH/PSA	NO PSH/PS
	1 1246.1	541.6 0.0		5 0.86928	6 0.8771	11 0.97813	16 0.93408	23 0,94244	29 0.93712	34 2,84933	35 6,9743
	2 1244.0	541.6 0.6	211 4.93	4 0.79055	7 0.9530	7 12 0.95611	17 0.94244	24 0.97737	30 0.96826	41 1.68742	36 1,1588
	3 1247.2	543.8 0.0	210 4.95	3 0.98952	8 8.9887	6 13 0.93712	18 0.92573	25 0.93786	31 0.99939	42 0.84903	37 1.0768
		543,4 D,0		2 1,36239	9 1.0191	4 14 0,95079	19 0.94016	26 0.91356	32 1,03660	39 0.82852	38 1.0662
, ····		545,1 0.0		1 1.39505	10 0.9963	5 15 0.99332	20 0,97737	7 27 0.94092	33 1,00243	40 0.85434	43 0.8292
		545,1 0.6			*-n			7 28 0 <b>.95</b> 914			<del></del>
	WIND TUNN	FL TEST CO	ONDITIONS	7.7		17.992 PS	5,093	R/L 5,3	MACH 1	.473 TEMP	100.2
	HODEL ATT	TTUDE	C DADAMETRI	RS., PTC= 125	0.02 BE	54844	PTC/PS4s	0.0 246.15 Yotal Tempel	PEN(221/PS/	= 0.9707	
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_		28 AUGUST	1973		ASFC TI PLUM	RISGNIC WIN E TECHNOLOG	ID TUNNEL SY TESTNO	HUNTSVILLE, N-QUIESCENT	ALABAMA PHASE		†EST 570	สบ <b>ง 549/ป</b> ้
,			- PSA	PTC	SK[*(1)	SKIN[2]	TEMPERATUR SKIN[3]	RE DATADEC	REES FAPREN	PETT	EDER-PIPE	TCH
		FRAME	-	1221.69	1217.7	111.9	114.9	109.7	Ú + Û	277.4	684.5	526,7
20€		1	7.39		1208.7	112.7	115.5	111.0	0.0	290.5	665.9	529.7
RIG P			7.39	1211,89	1231,4	113.2	114.5	114.9	0.0	300.4	652.4	530.6
001		3	7.39		1237,7	111.4	113.6	117.1	0.0	309,5	639.0	531.5
2 F -		4	7,39	1241,37	1241,4	112.7	113.6	120.5	0.0	319.1	630.3	533,2
ORIGINAL PAGE IS OF POOR QUALITY		6	7,38	1240,84	1239.8	114.0	113.6	124.4	0.0	325.1	624,7	534.1
ALI.			· · · · · · · · · · · · · · · · · · ·		<u></u>							
		FR PTC	TC P47/	PTC PORT-22	NO PSM/PSA	NO PSH/PS	A NO PSH/PS	A NO PSM/PSA	NO PSH/PSA	NO PSM/PSA	NO PSH/PSA	NO PSM/PSA
***			532.8.0.0	·	5 g.89227	6 1.0001	11 0.9802	4 16 1.01861	23 0.93521	29 1.04622	34 1.95001	35 1.13838
<del>-</del>			535.9 0.0	•				5 17 1.05669				
(	(		537.6 0.0		3 0.95406	8 0.9881	0 13 0,9467	3 18 1.02527	25 0,93626	31 3,99805	42 0,78545	37 1.03313
<b>→</b>			537.6 0.0		2 1,31065	9 0.9996	2 14 1.0095	7 19 1.01271	26 1.00799	32 0.99962	39 0.77236	38 0.92421
325		5 1246.1	540.3 0.0	211 6.77	1 1.37297	7 10 0.9797	2 15 1.0137	5 20 1.00799	27 1.02894	33 0.99962	45 0.79468	43 9,76021
		6 1241.9	540.7 0.0	213 6,77				21 0.98967	28 1.02580			
•												
		HODEL ATT	TTUDE	NDITIONS	ALPHA : pice 12:	0.02 BE	17.996 PS TA 0.00 * 537.5 URE= 1300.	ROLL 0	R/L 5.4 .0 166.97 OTAL TEMPER	P9N(22)/PSA	0.9161	101,4
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					PLU4	E TECH	OLOG'	Y TEST40	N-QUIESCENT	PHASE					<del> </del>
								-TEAPERATUR							
· · <del>· · · · · · · · · · · · · · · · · </del>	FRAME	PSA		PTC	SKIN[1]	SKINIZ	21	SK11.[3]	SKINI41	SKIN[5]	HODEL	-STING F	EEDEo-bla	Έ	TCH
	1	16.6	9 1	216.63	1213.5	104	, 9	168.4	113.5	0.0		334,2	711	č	532.3
_ <del></del> -	<u>s</u>	17.6	<del>2</del> 1	225. <sub>0</sub> 5	1221.9	184	0	100.4	115.3	0.0		339,4	689	3	534.9
		10.7	1 1	234,00	1232,9	106	.2	109,3	118,4	0.0	·	343,3	672.	4	536.2
	4	15.7	2 1	222.95	1221.4	104.	, 9	108,4	120.5	0.0		348,5	657	2	537,5
	5	10.7	4 1	238.21	1235,1	105.	. 8	198.8	123.6	0.0		352,4	646.		538.8
	. 6	10.7	4 1	240.84	1236.6	107	.1	109.7	125.7	0.0		357.2	638,	1	541.0
	FR PTC	TC P	47/PTC	PORT-22	NO PSH/PSA	NO PS	I/PSA	NO PSM/PSA	NO PSH/PSA	NO PSM/F	SA NO	PSH/PSA	NO PS#/F	SA 4	O PSM/PS
	1 1216,1	538.5	0.0211	9.70	5 0.99626	6 0.9	8638	11 0.96089	16 0.98038	23 0.959	86 29	1.00059	34 1.346	92 3	5 1.0428
	2 1224.0	540.7	0.0210	9.71	4 0.95186	7 0.9	6738	12 0.96666	17 1.00240	24 0.968	47 30	8.99157	41 1.12	43 3	6 1.0286
	<b>3</b> 1233.5	541.6	0.0209	9,75	3 0.89411	8 8.9	9229	13 0.97424	18 0.99157	25 0.961	61 31	8.98760	42 0.896	27 3	7 1.0204
	4 1223.5	543,8	0.0212	9.74	2 1.09119	9 0.9	8471	14 0,97460	19 0.98543	26 0.976	77 32	0.97930	39 g.886	53 3	8 0.9233
	5 1237,7	544.7	0.0211	9.78	1 1,15833	10 0.9	7460	15 0,99049	20 0,97930	27 0.996	62 33	0,96305	40 0.892	36 4	3 0.8966
· ·	6 1242,4	547.8	0.0211	9,79					21: 0,96341	28 0,997	34		<u> </u>		
	WAND-TUNN HODEL ATT					86 PT	17 BET/	7:996 PS		R/L 5.	1 1	IACH 0	.893 TE	MP	101.3
	AVERAGE: H	ODELTNO RAMETER	27LE P/	RAHETERS	PTC= 122	9.5 DTÁL PR	TC= NESSUR	·542.8 RE= \$300.	PTC/PSA*: HEATER T	114.74 TOTAL TERF		(C221/PBA  RE# 645,			
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	28 AUGUST	1973			RISONIC WIN		HUNTSVILLE			TEST 575	RUN 551/0
٠	FRAME						E DATADI	EGREES FAHRI	NHET T		
		PSA	PTC	SKIN(1)	SKIN[2]	SKIN(3)		SKIN[5] NO	DEL-STING F	EEDER-PIPE	TCH
	1	10.66	9.79	7.7	114.5	118,8	117.1	0.0	130.9	365.4	144,8
		10.66	9,79	8.2	111.9	117.1	116.2	0.0	129.2	365.4	143.5
·		10,68	9.79	8,2	112.7	116.6	114.9	0.0	127,9	366.8	143,1
	· 4	10.67	9,79	7,7	111.4	114.9	112.7	0+0	127.9	367.2	143.1
		10,66	9,79	8.2	109.3	113.6	112.7	0.0	126.2	367.2	141.8
<del></del>		10.66	9,79	7.7	108.4	112.3	111.4	0-0	125.3	368.1	141.3
		•				-			v	<del></del> .	
<del></del>	FR PTC	TC P47/PTC	PORT-22	NO PSH/PSA	NO PSH/PSA	NO PSH/PSA	NO PSH/PS/	NO PSH/PS/	NO PSH/PSA	NO PSH/PSA	NO PSH/PSA
	1 10.3	146,9 8,9467	18.08	5 0.99731	6 8.98244	11 0.96068	16 0.98316	23 0.95995	29 1.00057	34 1.35271	35 1.05025
	2 10.3	145.2 0.9467	10.06	4 0.95161	7 0.96684	12 0.96721	17 1-00347	24 0.96721	30 0.99150	41 1.17936	36 1.03031
	3 10.3	144.7 0.9506	10.06	3 0.88996	8 0.99005	13 0.97265	18 0.99078	25 0.95850	31 0.98570	42 0.90555	37 1.01870
	4 10.8	145.2 0.9063	10.07						32 0.97917		<del></del>
	5 10.8	143.8 0.9035	18.07						33 0.96358		
·	6 9.8	142.5 0,9946	10.09					28 0.99513			
									, <u></u>	<del>- ,, </del>	
·~ · <del> </del>	MODEL ATT	EL [FST COND[]		. ALPHA	16 PT 1			R/L 5.2	MACH 0	898 TEMP	97.2
	AVERAGE MI HEATER PAI	ODEL/NOZZLE PARAMETERS	LRAMETERS.	. PTC* 1	0.4 TC= OTAL PRESSU	144.7 RE= 0,	PTC/PSA= HEATER T		PSM1221/PSA: ATURE: 260.	0.9442	
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	<u>.</u>	UST		<del></del>		PLUM	RISONIC WI E TECHNOLO	GY TESTNO	HUNTSVILLE N-QUIESCEM		·	<del></del>		
	FRANE		PSA	PTC		H(1)	SKINIS1	TEMPERATUR SKIN(3)	E DATAD SKIN(4)		ENHEIT IDDEL-STING			TCH
	1		7,47	5.05	9	5.6	161.7	181.2	173.4	0.0	243.6		778.1	254.5
	2		7,48	5.58		5.1	159.1	177.7	169.1	0.0	241.0		778.6	253.2
	3		7,48	5.58		5.1	155.2	173.0	165.6		238.9		778.6	251.4
···-	4		7,46	5.58		5.6	151.7	168.6	161.7	8.0	235.8		,,,,,, ,,,,	248,6
	5		7,46	6.10	<del></del>	5.1	150.4	165.2	158,7		232.2		778.1	248.4
	6		7,47	5.58		4,5	147.0	162.6	156.1	0.0	231.1		778.6	246.2
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	FR P	TC_	TC P47/P1	C PORT-2	22 NO	PSH/PSA	NO PSH/PS	A NO PSH/PSA	NO PSM/PS	A NO PSM/PS	A NO PSM/P	SA NO P	SH/PSA N	IO PSH/PSA
	1	6.1	256,5 1,998	5 6,73	5	0.90304	6 0.9972	2 11 0.97549	16 1.8112	0 23 0.9180	5 29 1.043	Bo 34 1	.93959 3	5 1.14989
	2	6.6	255.6 0.919	3 6.73	4	0.88264	7 6,9708	3 12 8.96255	17 1.0531	1 24 1.0088	9 38 1.088	9 41 1	37856 3	6 1.01120
	3	5.1	252.5 1.204	7 6,74	3	0.95841	6 1.0969	2 13 0.95228	18 1.0112	<b>8 25 8.93</b> 09	8 31 0.988	13 42 6	,75n <b>8</b> 9 3	7 1.03241
	4	6.1	250.8 1,000	2 6,74	2	1.29944	9 8,9873	9 14 1.01327	19 1.8096	4 26 1.0101	6 32 1.001	38 39 0	.75296 3	8 0.92115
	5	6.6	250.8 0.919	3 6,75	1	1.37034	10 0.9832	5 15 1.01585	29 0.9863	6 27 1.0246	5 33 0.984	9 48 0	.74934 4	3 0.77936
	6 '	6.1	248.1 0.998	5 6,75					21 0.9775	6 28 1.8486	9			
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			L TEST COND					18.000 PS	7.474 ROLL	R/L 5.4	MACH	1.195	TEHP	101.3
	AVERAGI	E MO	DEL/NOZZLE	PARAMETER	15 P	TC=	6.1 TG	= 252.4	PTC/PSA=	0.0 0.82 Total Tenpe	PSH(22)/PSRATURE= 63	SA= 6.9	017	
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	Ž8 Ā	JGUST	1973			···- · ·				D TUNNEL Y TEST		NTSV[LLE					TES	575	₹U	N 553/
										-YEMPERA	TURE"	<u> </u>	EGREE	S FAHRE	MEIT					
	FRA	₩ <u>E</u>	- <b>5</b> A		PTC	SK1	V[1]	SKIN	[2]	SKIN[3]		KINE41	SKI	N(5] HO	DEL-S	TI'S F	EEDE	PIPE		ICH
		1	5.2	21	4.00		3.5	12	0.5	126.0		127.9		0.0	1	60.0		413.6		132.2
		2	5.2	24	3,47		3.5	11	7.5	124.ū		125.3		0.0	_1	57.8		412.7		176.0
		3	5.3	23	3,47		3,5	11	6.2	123.1		123.6		0.0	1	56.1		412.7		172,1
		4	5.:	16	4.00		2.9	11	6.6	122.3		123.1		0.0	1	56.1		413.1		139.6
		5	5.	23	4.00		3.5	11	3,6	119.2		120.1		0.0	1	53.9		412.7		166.0
		6	5.3	21	3,47		2,9	11:	1.4	117.9	<del></del>	118.8		0.0	1	52.6		412.7	<b>.</b>	166.0
					_														-	
	FR	PTC	TC	P47/PTC	PORT-2				••	NO PSM/										
· · · · · · · · · · · · · · · · · · ·	1		125.8	1.0066	4,98	5	8.87983	3 6 0	98354	11 0.95	098 1	6 0.9346	8 23	9.93698	29 0	95172	34 2	76845	35	0.9895
•	2		180.4	1.0066	4,98	4	0.78866	5 7 g	94061	12 0,94	061 1	7 9.9302	3 24	1.00732	30 1	.00509	41 1	.89974	36	1,1261
	3	4.0	178.2	1,0066	4,99	3	1.01769	8 1	.04660	13 0.96	062 1	8 0.9591	4 25	0,93319	31 i	.00732	42 (	,70935	37	1.061
	4	4,5	135.9	0,8895	4,98	2	1,37941	91	.80139	14 0.93	171 1	9 0,9606	2 26	0,90651	32 1	.01695	39 (	.71009	38	1.0629
	5	4.5	167.2	0.8829	4,97	1	1,43352	2 10 0	.99694	15 0.93	468 2	0 1,0132	4 27	0.94209	33 1	.01102	40 (	70490	43	0.7498
	6	4,0	175.1	1,0041	4,97							1 1.0080				·		<del></del>	<del></del>	<u>-</u>
	MODE	LATT	ITUUE.		TIONS	A	LPHA	0.04	BET	A 0.0	-		R/L	5,4	HAC		,456		9	7.3
	HEAT	AGE MI ER PAI	ODEL/N RAMETE	OZZLE P AS	ARAHETER	18., P	EAYER T	4.2 TOTAL		160.4 RE= 0		TC/PSA=	TOTAL	60 TEMPER		21/PSA = 0.		7341		
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				<del></del>			PLU	TRISCHIO	OFOCA	TUNNEL	HUNTSVILLE ON-QUIESCEN	ALABAHA T PHASE		· =•	TË	ST 575	नः	JY 554/
			 c.c.	···						TERPERATO	RE DATAD	EGREES FAR	RERHE	77		··		
			FS		PTC	54	(IN(1)	SKINEZ	<u>.</u>	2K1v(3)	SKIN[4]	SKIN[5]	HODEL	STING	FEEDER	-bib£	,	TCH
			1.	.21	0.28		v . 6	105.	3	166.7	111.0	9.0		124.4		879.1		138.7
<del></del>	<del></del>	- 4	19	.21	0.28		<b>.</b>	123,	2	195.5	109.3	0.0		123,6		878.7		137.4
	<del> </del>	3	<u>1</u> .	21	1.28		<u> </u>	101.	9	104.9	108.4	0.0	<b>-</b> -	123.1		878.7		137.0
		4	1.	21	0.25		0.3	103.	2	104.5	108.0	0.0	· •	123.1	<del></del> <u>-</u>	879.1		
		5	1.	21	0.28		0.3	100.0	6	103.2	107.1	0.0		122.3	<del></del>			136.1
<del></del>		6	1.	22	0.25		0.6	100.	6	102.3	105.8	0.0		122.7		879,1 879,6		135.3
		·	<del>_</del>	<del></del>		<del></del> .	<del></del>											10310
	FR	PTC	TC.	P49/PTC	2007-0		204.20											
	1				FUR 1 - 2.	2 NU	PSM/PSA	NO PSM/	/PSA I	NO PSM/PSA	NO PSH/PSA	ND PSH/PS	A NO	PSH/PS/	ND P	SM/PSA	MG 1	SM/PS/
				-1,4957	1.18	- 5	0.84147	6 0.88	606 1	L1 0.95868	16 0.98798	23 0.9580	4 29	0.99142	34 3	42822	35 (	.7249
<del>}</del>	<u> </u>			·8.4438·	1:18	4_	0.78860	7 0.89	626 1	L2 1.00582	17 0.98862	24 0.9892	6 30	0.97235	41 3	82135	36 (	,92619
	3	0.3	138,1	1.2564	1.18	3	1.46637	8 0.93	957 1	3 1.00582	18 1.00327	25 0.9860	/ 31	0.96250	42 0	39475	37	·
	4			1,3654	1.18	2	2,97602	9 1.02	557 <u>1</u>	4 0.96633	19 0.99626	26 0.9733	3 32	95932	<del></del>			.98735
	5	0.8	136,4	0.4687	1.18	1	2.73973	10 0.99	372 1	5 i.01920	20 1.00072	27 0.9961	7 33 (	.95167	40 D.	2567-	43 (	.30767
	<u> </u>	0.8	136.8	0,4563	1,18						21 0,99754							
<del></del>	17 \$ 445			<del></del>			<del></del>		<del></del>		·							
	תעשה				IONE		LOUA		Br.fa	031 PS		VL 10.7	MAC	н .3	-480	TEMP	101	.0
	4464	20C PL	JUELIND	1771 F PA	DINETEDO		TC			:	PTE/PSAN	0,37	P8HL2	21/PSÁ	0.97			
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	FRANE	PSA	PTC	SKIN[1]	SKIN[2]	SKI		INT41	SKINESI	RENHETT MODEL-STING	FEEDER-PIPE	TCH
 >	1		1123.96	1055.5	64,2		50.7	54.2	150.4	78.9	270.5	154.8
	2		1985,54	1032.2	63.3	9	59.4	54.2	148.3	84.5	239.7	140.0
	3		1066.07	1017.0	63.3		59.8	55.5	152.6	88.9	213.7	129.2
	4		1956.59	1617.4	63.7		59.8	56.4	150.0	91.5	190.3	120.1
	5		1969,75	1020.0	63,3		59.8	56.8	150.9	92,3	168,2	110.1
	6		1070.80	1021.3	63,3		51.1	56.8	151.3	93.6	149.1	101.0
	FRAME	PTC	PSC	<u> </u>	C PSN[44	IJVPTC F	SN[45]/P	C PSN	(46)/PTC PSN	[47]/PTC PSN	1[48]/PTC PSN	1(49)/PTC
		1118,7	0 14.4	9 15	4.8 0.	02846	0.021	9	0.02157	0.02090	0.02107	0.02090
	Ź	1085.5	4 14,4	9 14	1.8 0.	02115	0.022	<u> </u>	0.02247	0.02164	0.02197	0.02165
	3	1066,5	9 14.4	9 13	0,5 0,	02153	0.022	74	0,02290	8.02201	0,02237	0.02204
	4	1067,1	2 14,4	9 12:	1,4 0,	02145	0,022	11	0.02288	0.02199	0.02230	0.02200
	5	1069,7	5 14,4	9 11	1.4 0.	02144	0.022	5 <del>7</del>	0,02282	0,02194	0.02228	0.02195
	6	1072.3	i8 <b>14,</b> 4	9 18	2,7 0,	02138	0.022	52	0.02279	0.02189	6.82222	0.02190
	TUNNEL STA	TIC PRESS	URE# 2.61(	HE ATE	R TOTAL PE	(ESSURE:	= 1100,	HEA	TER TOTAL TE	MPERATURE=	Q. ALPH	(A= 0.00
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FRAME	PSA	PTC	SKIN[1]	SKINESI	SKIN[3]	RE DATAD Skin[4]		DDEL-STING F	FEEDER-PIPE	TCH
1		980.70	952.5	73.7	76.3	77.2	151.7	120.1	466.3	343.
5		976.06	941.6	75.a	75.9	77.2	148.3	136.6	452.6	348,
3		977,64	942,9	74,1	76,3	78,5	147,6	152.2	441.7	349.
4		964,49	933.3	74.6	76.3	78.n	150.4	165.2	431.3	351.
5	<del></del>	976.59	942.9	75.4	76.3	78.9	148.3	178.2	425.3	353,
6		976.59	943.7	75,9	77.2	80.2	148.3	189.4	419.6	355.

 FRAHE	PTC	PSC	TC P	SN(441/PTC P	SN[45]/PTC P	SN[46]/PTC P	SN[47]/PTC P	SN[481/PTC P	V[49]/PTC
 1	989.22	14,49	343.3	0.02278	0.02398	0.02395	0.02342	0,02372	0.02354
 5	976,59	14,49	348,1	0.02297	0.02418	0.02413	0.02361	0.02394	0.02374
 3	979,75	14,49	349.8	0.02285	0.02402	0.02400	0.02344	0,02377	0.02372
 4	963.96	14,49	350.7	0.02316	0.02437	0.02434	0.02378	0.02413	0.02413
 5	976.06	14,49	353,7	1.02294	0.02414	0.02410	0.02356	0.02389	0.02387
. 6	977.64	14,49	355.9	( +02296	0.02415	0.02415	0:02358	\$.02 <b>3</b> 90	0.02389

TUNNEL	STATIC	PRESSURE#	2,610	HEATER	TOTAL	PRESSURE:	1100.	HEATER	FOTAL	TEMPERATURE:	445,	ALPHA=	0.00
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FRAME	FSA	PTC	SKI*[1]	SKINI2]	2k [n(3)	SKINI4	) SKIN(5)	HRENHEIT	FEEDER-PIPE	TCH
1		558,17	599.1	242.3	268.6	299	1 150.4	384,1	535.0	463
2		561.85	601.7	240.6	268.3	298.	3 148.3	387.1	537.5	468
3		562.38	602.1	239.3	267.5	297.	8 152.6	389.7	539,3	473
4		564.49	603.9	240.6	267.9	297.	8 151.3	394.1	543,2	477
5		569.22	606.9	241.0	267.5	298.	3 152.2	396.7	544,5	481
6		565.54	604.7	238,9	265.7	297.	4 152.2	399.7	547.1	484
							NIACIABTE DE	NE471/PTC PSN	MARI/PTC PS	
FRAHE	PTC	PSC	TC			0.02540	0.02534	0.02455	0.02479	0.02533
. 1	558,17		:			0.02533	0.02525	0.02451	0.02472	0.02525
2	561.33					0.02535	0.02530	0.02454	0.02479	0.02528
-3	561,85					0.02540	0.02533	0.02460	0.02482	0.02533
4	563,96 570,28					0.02524	0.02519	0.02445	0.02466	0.02521
5 6	966,17					0.02546	0.02539	0.02462	0.02486	9.02539
	300,17	<u> </u>		<del></del>	:					
TUNNEL ST	ATIC PRESSU	RE= 2+610	HEATER	TOTAL: PAG	3548E= 6	00. HE	ATER TOTAL	TEMPERATURE: (	SEO. ALPI	HA= 0.04
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				<del></del>	TEMPERATU		DEGREES FA	PRENHETT		
FRAHE	PSA	PTC _	SKIN[1]	SKIN[2]	2KIN[3]	SKIN14]	SKIN[5]	HODEL-STING	FEEDER-PIPE	ŢÇ
11		1068.70	1026.9	182.9	183.8	184.2	152.6	422,7	573.1	52
5		1069,22	1021.6	183.8	184.7	187.7	148.7	428,7	577.4	53
3		1076,59	1026,1	186,8	186.8	199,3	152,2	435,2	582,6	536
4		1074.49	1023.9	188,1	186.4	193.3	147.8	440.4	586.5	545
5		1078.17	1024.8	189.0	189.4	196.0	147,8	446.5	590.0	54
6		1079,22	1027,4	191.6	189.4	199,9	152,2	452.6	593,9	541
FRINE		200			1070 DCU145	1 40TP DENA	414076 00	N(47)/PTC PS	W. 403 457C DCV	
FRAHE		PSC	TC		·		1.02539		0.02494	0.0253
<u> </u>	1067,12			* **			1.02544	6,02459 6,02465		
5	1069,70								0.02498	0.0254
3	1076,59				•		, 92583	0.02455	0,02489	0.0253
4	1076,07						7.02541	0.02464	0.02499	0.0254
5	1082,91						.02533	8.02456	0.02491	0.0253
6	1081,33	14,49	548.	<u> </u>	412 0*	<u>02549</u> (		0.02464	0.02499	0.0254
TUNNEL S	TATIC PRESSU	RE# 2,610	HEATER	TOTAL PRES	SSURE: 1100	, HEATI	Ř ŤOTAL Ť	EMP <b>EÑ</b> AŤUREN: (	548. ALPH	A= 0.0
										-

TEST	575	RUN	605/ū
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4cFC	TRISCNIC HIND	TUNNEL	HUNTSVILLE.	ALABAMA
	TECHNOLOGY TE		E CALIBRATI	

	UGUST 19			PLUME TE	CHNOLOGY	ND TUNNEL TEST NOZZ	LE CALIBRA	LE, ALABAMA ATION PHASE		TEST 3/2	80N 9037
	 .ч <b>⊑</b>	 FSA	PTC 5	SKIN[1]	SKIN[2]	TEHPERÄTU SK[N[3]	RE DATAL Skini41	-DEGREES FAI SKIN[5]	RENHETT	FEEDER-PIPE	TCH
		r s A	1462.91	1345,2	235.8	266.2	319.4	150.0	439.6	590.4	547.1
	1			1352.5	235.0	265.7	310.4	152.2	446,5	594.3	551.0
	2				236.7	265,7	310.8	151.7	454,8	598.7	555.3
	3		1483.96	1362,9		264.9	310.4	152.6	460.4	601.7	558.8
	4		1465,54	1346.0	236.7				467.8	605.6	562.7
	6		1445,54	1343.0	237,6	264.9 264.4	310.8 311.3	149,1	<del></del>	608.2	565,3
	'RAHE	PTC	PSC	TC	PSN (44)	I/PTC PSN[45	51/PTC PSNI	(461/PTC PSI	N[47]/PTC PSN	(48]/PTC PSN	[49]/PTC
	1	1466.07	14.49	547,	5 0.0	2406 0	02542	0,02535	0.02459	0.82493	0.02538
· · · · · · · · · · · · · · · · · · ·	2	1473,43	14,49	551.	4 0.0	2400 0	02532	0.02524	0.02450	0.02486	0.02531
	3	1484.49		556,	6 0.0	2380 0	02511	0,02506	0.02435	0.02467	0.02510
	4	1468.17		559.	2 0.0	2401 6	\$2533	0.02526	0.02454	0.02488	0.02531
	5	1462,38			.6 0.1	2392 0	. 02523	0.02518	0.02444	0.02478	0.02522
	6	1443,96		<del>5</del> 65,			02589	0482952	0.02461	0.4 <b>02</b> 495	0.02537
TUNN	EL STAT	IC PRESSU	RE= 2,610	HEATER	TOTAL PRI	55URE* .160	D. HEAT	TEP TOTAL T	EMPERATUR <b>S</b> »	SG. ALPH	A= 0.04
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FRAME	PSA	PTC	SKIN[1]	SKIN[2]		TURE DATA- Skint	DEGREES FA 4) Skin(5)	HAENHETT	FEEDER-PIPE	TCH
1		1808.17	1629.5	169.4	212.9			385.4	595.2	547.
		1766.67	1596.6	109.3	212.4		.6 148.3	397.1	597.0	550.
23		1761.33	1591.8	192.0					601.7	554.
4		1758,17	1587.9	192.9	213.7		,8 147,4	418,3	603.4	556,
5		1728.70	1564.5	192.5	213,3	234	.1 150.0	427.9	604.3	559.
6		1701.33	1543.3	195.1	213.7			436.5	607.8	562.
FRAME	PŤC	PSC		TC PSN(4	41/PTC PSNI	451/PTC P	SN(46)/PTC P	SN(47)/PTC PSI		
1	1813,43	14,4	5	47.1 0	.02340	0.02929	9.02504	0.82426	0.02458	9.02501
2	1769,7	14,4	<b>5</b> 5	50.6 0	.02398	0.02558	0,02533	0.02456	0,02467	0.02532
3	1761,85	5 14,4	9 5	54.9 0	.02372	0.02539	0.02515	0.02440	0.02469	0.02514
4	1759,2	2 14,4	9 5	57.5 <u>0</u>	,02343	0.02501	0.02486	0.02411	0,02438	0.02483
5	1730,2	9 14,4	9 5	<b>59.7</b> 0	.02364	0.02518	0.02505	0.02431	0.02458	0.02501
6	1701.8	5 14,4	9 5	<del>6</del> 2.7 0	.02877	0.52526	0.02515	9402446	0.02474	6982516
TUNNEL STA	TIC PRESS	URE= 2,618	HEAT	er Totalop	RESSURE: 21	100. H	EATER TOTAL	TEMP <b>OŘ</b> ÁŤURE•	650. ALP	HA= 0.04
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31 AUGUST 1973	۹SF	C TRISCAID HIND	TUNNEL	HUNTSVILLE,	ALABAMA
	P	LUME TECHNOLOGY	TEST.	.NON-DUIESCENT	PHASE

TEST 575 RUN 607/0

FRAME	FSA	PTC	SKIN[1]	SKIN[2]	SKIP[3]	E DATADE SKINI41		DEL-STING F		Ť
1	10,58	1487.64	1487.6	91.5	91.0	101.7	147.8	144.4	284.5	5
	16,56	1492.38	1491.9	92.3	91.9	101.9	147.8	151.7	294,4	2
3	10.59	1495,54	1497.1	91.0	92.3	103.2	148.3	157.8	303.0	2
4	11,59	1509.22	1507.6	92.3	92.8	104.8	151,3	164,3	309.1	s
5	10.60	1521.85	1519.7	93,6	94,5	105.3	150.4	170.8	316,0	3
6	10.59	1517.12	1518.7	94.1	94.9	106.2	150.0	175.6	320.8	3
FR PTC	TC P47/	PTC PORT-2	2 NO PSM/PSA	NO PSH/PS/		NO PSH/PSA	NO PSM/PSA	NO PSH/PSA	NO PSM/PSA	NO PS
1 1488.	2 281.4 0.0	232 9,55	5 0.99693	6 0.97902	2 11 0.95271	16 0,97756	23 0.95673	29 1.00716	34 0.90045	35 1.
2 1492.	9 288.3 ე.0	232 9.54			3 12 0.96002		· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·		
3 1495.	5 293,5 0.0	233 9,55	3 0,88656	8 0.9870	5 13 0,96733	18 0.98560	25 0,95052	31 0.98450	42 8,86939	37 1.
4 1512.	9 297.4 0.0	232 9,57	2 1.08682	9 0.97829	9 14 0.97061	19 0.98231	26 0.96952	32 0.97098	39 0.85477	38 g.
5 1519.	7 302.6 0.0	232 9.60	1 1.15370	10 0.96586	5 15 0.98523	20 0.97317	27 0.99108	33 0.95855	40 0.88729	43 G.
6 1515,	5 305.6 0.0	234 9.59				21 0.95636	28 0.99291			
						45 504	D. E. A.		004 TEMP	
MODEL AT	TITUDE	NDITIONS	ALPHA	o.co BE		ROLL	R/L 5.1			181.
	MODEL/NOZZL ARAMETERS		S PTC= 150		= 294,8	PTC/PSA=		PĢM[22]/PSA: ATUREP 375.	* 0,9837	

A-337

	PSA	!	PTC	SK[N[1]	SKIN[2]	SKIV[3]	SKIN[4]	GREES FAHREI SKIN(5) HO	DEL-STING F	EEDER-PIPE	TCH
1	7.32	15	75.59	1570.1	105.8	109.7	114.0	152,2	143,1	430.9	328
<u>۔</u>	7,31		76.29	1569.7	106.7	109.3	114.5	151.7	156.9	417.9	332
3	7.32		93,43	1596.1	105.3	108.4	113.2	152.6	166.0	401.9	334
4	7.31	15	86.37	1585.5	104.5	107.1	113.2	147,8	175.1	397.5	336
5	7,32		85.54	1585.5	104.0	106.2	113.2	151.3	183.4	391.5	338
. 6	7,32	15	89.75	1590.3	105.8	106.7	113.2	152.6	190.7	387.6	340
						SA NO PSM/PSA	NO 254/854	NO PSW/PSA	NO PSM/PSA	NO PSM/PSA	NO PSH/
FR PTC		7/PTC				20 11 0.96653					
_•	6 329.0 0		6,80						•		
2 1571.	3 332.9 0	.0236	6,80			7 12 0.98028					
3 1592.	4 334.2 û	.0233	6.81			3 13 0,95014					
4 1585.	5 337,7 0	.0234	6.79			2 14 0.98821					
5 1586.	1 339.0 0	.0235	6.80	1 1.35779	10 0.9765	57 15 1.00354	20 0,99931	27 1.02733	33 0.99614	40 0.84915	43 0.80
6 1586,	1 841,6 0	,0236	6.80			<u></u>	21 0.98609	28 1,01993			
	NEL TEST					18,015 PS	7,316 ROLL (	R/L 5.5	MACH 1	.212 TEMP	99.7
KWEDAGE	TITUDE Model/Noz	TIF PA	RAMETERS	ALPHA PTC= 158 HEATER T	3.2 TC	TA 0.00 = 335,8	PTC/PSA=		PSM(22)/PSA	0,9293	

			, LO	E Teen ingoe	IY TEST NO					
FRAHE	 ⊬5 <b>a</b>	PTC	SKIN(1)	SKINIZI	-YEMPERATUR	E DATAD Skiv(4)		THEIT	EDER-PIPE	тсн
1	5 <b>.</b> 18	1255.54	1254.5	106.7	105,8	122.3	156.4	141.3	443.5	192.9
Ē	5.19	1254,49	1256,6	105.8	108.0	121.4	150.4	142.6	388.4	173.8
3	5.24	1256,59	1255.0	105.3	107.1	120.5	151.3	142.6	340.3	156.1
4	5.23	1260.28	1261.3	104.5	106.2	117.9	147.8	141.3	296.1	139.2
5	5.24	1264.49	1264.5	184.9	106.2	114.5	151.3	139.6	257.1	123.6
6	_5.22	1263.96	1265.5	_104.0	105.8	110.6	150.9	136,1	220.7	110 1
				······································						
FR PTC	TC 947/	PTC PORT•22	NO PSM/PSA	NO PSM/PSA	- NO PSM/PSA	NO PSM/PS	A NO PSH/PSA	NO PSM/PSA	O PSM/PSA	NO PSH/PS
	193,8 0.0							29 0.94209		
2 1254.0								30 0.99620		
3 1258.7								31 1.06068		
	140,9 0.0							32 0,98360 3		
•	125,7 0.0							33 1.00361		
				10 11 0001			5 28 0,93023		<u></u> :	
0 1204.0	112,3 0.0	223 5.05			11	51 T14000				
						5,218	R/L 5.4	HACH 1.4	57 TEMP	98.3
HODEL ATT	TUDE	NDITIONS	ALPHA	52 PT 1 0.02 BET	A 0.00	ROLL	9 - 0			
AVERAGE MO	DDEL/NOZZL Rameters	E PARAMETERS	PTC= 125	9.7 TC=	: 150,8 JRE= 1300.	PTC/PSA= HEATER	241.39 Total Temper	PSM[22]/PSA= ATURE= 0,	0.9653	· · · · · · · · · · · · · · · · · · ·
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30	AUGU	ST 1	973		_						HWOFO.				ITSVILLE, WIESCENT					7(	EST 575	RU	N 6167
F	RAME		PSA			PTC .	Şı	K[N[1]		SKIN			PERATU		AYADE		ES FAHRE IN[5] MO					<del></del> -	TCH
	1		1.	21	146	38,17		1487.1		7	7.2		77,2		81.1		152.2		137.4		319.5		313.9
	2		1.	21	149	96,17		1498.7		7	6.3		76.7		81.1		152.2		158.9		333.4		323.8
	3		1.6	21	151	4.49		1515.0		7	7.2		77.2	<u>_</u>	81.5		152.6		161.7		345.5		333.4
	4		1,5	21	151	7.12		1517.1		7	5.9		77.2		81.3		151.7		173.8		357.2		341.6
·	5		1.	22	154	7.12		1548.2			7.2		77.2		82.4		147.8		185.5	<del></del>	366.8		349.8
	6		1,7	21	154	0.80	1	1542,4		7	8.0		77.6		82.8		148.3		196.4		375.4		356,8
						-																	
FR	PT	C	TC I	947/P	TC	PORT-	22 NI	D PSH/	PSA I	KG P	SH/PS/	A NO	PSH/PS	A NO	PSH/PSA	NO.	PSH/PSA	ND	PSH/PS	A NO	PSH/PSA	NO	PSH/PS
1	1490	.8 3	13,4	0.82	<u>3</u> 3	1.2	!	5 0.82	798	6 9	.8744	9 11	8,9368	9 16	0.98211	. 23	0.94135	29	0.9451	7 34	0.94708	35	0.7178
2	1498	.2 3	23,8	0.92	34	1.2	9 4	4 8.77	830	7 0	.67957	7 12	8,9954	9 17	0.96746	24	0.98402	30	0.9515	4 41	1,05600	36	0.9216
3	1512	.9 3	34.7	9,02	34	1.2	<b>1</b>	3 1.46	808	8 0	.92543	3 13	0,9966	1 14	0.98721	. 25	0.97957	31	0.9515	4 42	1.05663	37	0.9833
4	1519	.2 3	42.0	0,02	34	1.2	1 :	2 2.58	903	9 9	.9986	7 14	0.9617	3 19	0.99421	. 26	0.96428	32	0.9470	39	1.11268	38	1.0037
5	1547	.6 3	50.7	8.92	31	1.2	1 :	2.62	343	10 D	. 9732	9 15	1.0107	7 20	1.63434	27	8.98657	33	0.9445	4 40	2.52089	43	1.0961
6	1540	,3 3	57,2	0.02	34	1,2	1	-			·	<del></del>		21	<b>0.99</b> 421	28	0.97702			<del></del>			
MOD	EL A	TTIT	UDE.					O 1	(	0.02	BE:		0.00	RO	ILL O	R/L		MA		3,48		10	6.5
HEA	RAGE TER	PARA	EL/NO	es	PAI	RAMETE	R\$	PTC=	1518. R TO	TAL	PRESSI	= 33 URE=	1680.	PI	C/PSA= 1 HEATER T	OTA	.92 L YENPER	ATUR	22]/PS E= 450		,4437		
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			070	Sk[v(1]	SKIN[2]	TEMPÉRATUI SKIV[3]	RE DATADE Skiv(4)	GREES FAHREN SKIN(5) MOD	EL-STIVG FEE	DER-PIPE	TBH
	FRAME	PSA	PTC		131.8	141.3	154.3	147.4	234.1	561.5	4>5.2
	1	1.21	1467.12	1465.5	136.1	139,6	153.9	150.4	250.6	551+4	458.2
		1,21	1450.50	1454.5		137.9	153.9	152.6	265.3	544.1	462,6
	<u></u>	1:21	1474.49	1475.0	129.2	137.4	152.2	150.0	279.2	538.6	468.2
	4	1,21	1459.75	1461,9	128.8		152.2	151.3	291.8	536.2	471.7
	5	1.21	1475.54	1478,7	129,2	135.1		148.3	303.5	533,6	475.1
<u> </u>	6	1.22	1482.38	1481.9	127.0	134.8	150.9	<u> </u>	77772		
	FR PTC	TC P47.		2 NO PSM/PS	A NO PSM/P	SA NO PSM/PS	54 NO PSM/PS	A NO PSM/PSA 0 23 0.94339	NO PSM/PSA 1	NO PSM/PSA N	0 PSM/PS 5 0.7108
	1 1467.1 2 1449.2	TC P47. 454,8 Q, 458,2 Q,	0239 <u>1.22</u>	5 0.8325 2 4 0.7816	6 6 9.872 60 7 9.878	05 11 0.9459 42 12 0.9969 38 13 0.9994	94 16 8.9848 99 17 0.9625 45 18 0.9867	0 23 0.94339 0 24 0.98607 1 25 0.98034	29 0.93639 30 0.95040 31 0.94976	34 0.97270 3 41 1.09181 3 42 1.10137 3	6 0.9096 7 0.9803
	1 1467.1 2 1449.2 3 1473.4 4 1458.	454,8 0,0 2 458,2 0,4 4 462,1 0,7 7 467,8 0,	0239 1.23 0242 1.23 0239 1.23 0242 1.23	5 0.8329 2 4 0.7816 2 3 1.4752	6 6 0.872 60 7 0.878 29 8 0.929	05 11 0.9459 42 12 0.9969 38 13 0.9994	94 16 0.9848 99 17 0.9625 45 18 0.9867 51 19 0.9943 91 20 1.0332	0 23 0.94339 0 24 0.98607 1 25 0.98034 5 26 0.96760 1 27 0.98735	30 0.95040 31 0.94976 32 0.94530 33 0.94339	34 0,97270 3 41 1,09181 3 42 1,10137 3 39 1,15934 3	6 0,9096 7 0,9803 8 1,0121
	1 1467.1 2 1449.2 3 1473.4 4 1458.3 5 1471.	454,8 Q,	0239 1.23 0242 1.23 0239 1.23 0242 1.23	2 5 0.8325 2 4 0.7816 2 3 1.4752 3 2 2.5985 3 1 2.6320	6 6 0.872 60 7 0.878 29 8 0.929	05 11 0.9459 42 12 0.9969 38 13 0.9994	94 16 0.9848 99 17 0.9625 45 18 0.9867 51 19 0.9943 91 20 1.0332	0 23 0.94339 0 24 0.98607 1 25 0.98034 5 26 0.96760	30 0.95040 31 0.94976 32 0.94530 33 0.94339	34 0,97270 3 41 1,09181 3 42 1,10137 3 39 1,15934 3	6 0,9096 7 0,9803 8 1,0121

		բլյա	E TECHNOLOI	GY TESTVO			<del></del>		
FRAME PSA	PTC	SKIN(1)	SKIN(2)	TEMPERÁTUR SKIN(3)	E DATADE Skiv[4]	GREES FAFRE SKIN(5) MOI	HETT	EDER-PIPE	TCH
	1196.59	1195.0	167.1	112.7	110.1	152.6	428.7	894.5	550.1
1 5,15		1197.1	166.7	111,4	119.1	147.8	427.4	769.0	553.6
2 5.13	1196.17	1255.5	107.1	111.0	111.0	148.3	424.4	740.4	554.5
3 5.22		1212.4	167.1	111.0	112.3	149.1	422.2	715.7	554,9
4 5.15	1211.05	1222.4	107.5	110.6	112.7	150.0	420.1	695.3	554,5
5 5.19 6 5.16		1231.3	108.4	111.0	113.6	152.6	417.9	678.4	553.2
FR PTC TC P47	7/PTC 20RT-22	NO P5M/PS/	NO PSH/PS	A NO PSH/PS/	NO PSH/PS	NO PSH/PSA	NO PSH/PSA	NO PSM/PSA	NO PSM/PS
1 1197.1 550.0 0		5 0.89040	6 6 B.9128	5 11 0.97779	16 0.9315	23 0.96361	29 0.91659	34 0.98078	35 0,9740
2 1198.7 552.7 8		4 0.8031	3 7 0.9471	9 12 0.94190	17 0.9442	24 1.01660	30 9.99794	41 0.84269	36 1.1315
3 1284.5 554.5 0	· · · · · · · · · · · · · · · · · · ·					5 25 0,94047			
4 1210.3 554.9 0						7 26 0.90837			
5 1224.0 554.9 0						27 0,95092			
6 1232.4 553,2 8						6 28 0.94868			
WIND TUNNEL TEST (	CONDITIONS	0 7.		18.009 PS	5.182	R/L 5.3	MACH 1	462 TEMP	100.5
HODEL ATTITUDE AVERAGE HODEL/NOZ: MEATER PARAMETERS	TIE DARAMETER	ALPHA R PTC= 12	11.2 70	TA 0.00 = 553.4 URE= 1300.	PTC/PSA:	0.0 233.72 Total Temper	PSM(22)/PSA ATURE# 630.	0.9709	
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		AUGUS1			<del>.</del>	MSFC PLU	TRISO ME TE	CHNOFOE	TUNNEL TEST	HUNTSVII NON-QUIES	CENT F	ALABAMA Phase	- ·			EŠT 575	R	ÜN 615/C
!			·						I trunca it	SEC STREET								
	FR	AME		<u> </u>	PTC	SKINI11	SKI	N[2]	TEMPERAT	SKINI4	} S	KINIST	HODEL	-STING	FEED	ER-PIPE		TCH
		1	10	.72	832.38	829.7	1	00.6	103.2	118.8	3	147.8		192.5		509.5		375.4
<del></del> -		2	10.	,74	629,75	829.2		99.3	103.2	118.8	)	152.2		198.6		497.2		377.2
	· · · · · · · · · · · · · · · · · · ·	3	10	71	830.80	830.3	1	01.4	104.5	120.5	5	152.2		204.6		488.6		378.5
		4	10.	.71	830.28	828.7		99.3	103.2	120.5	j	152.6		208.5		478.6		379.8
	<del></del>	5	10.	70	832.91	831.9	10	00.1	103.6	121.4	1	147,8		213.3		471.2		381.9
	<del></del>	6	10,	73	838,17	837.1	9	99.7	103.6	121.8	)	152.2		216.8		464.7		381,9
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	FR	PTC	ŢÇ	P47/PT0	PORT-22	NO PSH/PSI	A NO P	SH/PSA	NO PSH/PS	A NO PSH/	PSA N	O PSH/PS	A NO	PSN/PS/	- MO	PSH/PSA	<b>W</b> O	PCM/PC1
	11	832.9		9,0236					11 0.9566									
		826.7	376,7	0.9237	9,32				12 0.9639		_							
	3_	830.8	379.3	0.0237	9.30	3 0.89210												
·	4	829.7	380.2	0.0238	9.28	2 1.08011							_					
	5	833.4	382.8	0.0238	9.28	1 1.14363												<del></del>
<del></del>	6	837.1	382.4	0.0237	9.29							8 0.9877			- 10	<b>U177037</b>		0.08637
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	AVER	L ATTI	ITUDE. DDEL/N	OZZLE P	TIONS	. ALPHA	0.00	9E14	370 A	ROLL PTC/PSA	9.0 * 7	7,64	PSMI	221/PSA	.894 = 0.		97	7.5
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								EMPERATUR	DATATDE	GREES FAH	REVIET	T		TCH
FRA	F.	F.S.A		PTC	SKINI11	2k [ v ( S	] S	KIN131	SKIN[4]	SK14[5]	KODEL	-STING FE	EDER-PIPE	
	1	10.0	65 1	149.22	1147.6	112.	7	113.6	108.4	150.0		2:1.2	497.7	385.4
	2	10.	64 1	147.12	1140.6	115.	6	112.7	111,9	152.6		207.7	485.5	386.3
,	3	10.	64 1	143,43	1143.4	111.	4	112.7	111.4	153.0		214.2	475.6	387.6
,	4	10.	62 1	142.38	1139.2	110.	1	112.3	110.6	152.6		220.2	466.9	388.4
	5	10.	62 1	147.12	1146.6	110.	6	111.0	111.9	147,8		225	460.4	390.6
	6	10.	62 1	152.91	1151.9	109.	7	111.0	112.7	150.4		229.8	453.9	391.0
		7.0		DART-22	NO PSM/PS	NO PSW	/DSA N	O PSW/PSA	NO PSM/PSA	NO PSE/F	SA NO	PSN/PSA	NO PSM/PSA	NO PSM/PS
Eb	PTC				5 0.9969									
1 1	149.7	385.8	0.0237											
2 1:	146.1	386.3	0.0237	9.40									41 0.83947	
3 1:	143.4	385.0	0,0237	9,41									42 0.83875	
4 1:	144.5	389,7	0.0237	9.39									39 0.81365	
5 1	145.0	391.0	0.0238	9,40	1 1.1479	1 10 0.9	6241 1	5 0.97805	20 9.96459	9 27 0.98	533 33	0.94604	40 0.83729	43 0.8514
6 1	153.4	391.5	0.0237	9,38	<del></del>				21 0-94459	9 28 0,98	787			
MIND	TUNN	EL TES	T CONDI	TIONS,	Q 6,		18.	011 PS	10.634	R/L 5	.2 M	ACH 0	.981 TEHP	97.7
AUSD	ARE N	INDEL /N	のフフトデ P	ARAMETER	ALPHA S., PTC# 11 HEATER	0.00 47.0 TOTAL PR	BETA TC= RESSURE	0,00 388.7 = 1300.	PTC/PSA=		PSM PERATU	(22)/PSA HE= 400.	= 0.8840	
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RUN 017/3

TEST 575

-TEMPERATURE DAT ---- DEGREES FAMRENHETT-----SKIN(4) SKIN(5) MODEL-STING FEEDER-PIPE TCH SKINI31 SKINIZI FSA PTC SKIN[1] FRASÉ 494.2 403.6 166.7 152.0 216.8 155.6 1532.91 1531.9 141.3 1 14.54 406.6 225.4 483.4 157.4 150.4 1539.75 153c.7 136.7 152.6 10.65 489.7 233.7 476.9 156.5 148.7 138.3 150.4 1535.8 10.63 1537.12 412.3 155.6 240.2 471.2 148.3 1550.6 136.1 146.5 10.62 1558.17 148.3 414.4 153.4 246.2 467.3 134.4 143.9 1556.59 1555.5 5 10.62 465.6 415.7 251.4 133.5 143.1 153.0 150.0 19.63 1545.54 1549.2 TO P47/PTC PORT-22 NO PSM/PSA NO PSM/PSA NO PSM/PSA NO PSM/PSA NO PSM/PSA NO PSM/PSA NO PSM/PSA NO PSM/PSA FR PTC 5 0,99587 6 0.97914 11 0.95659 16 0.97732 23 0.95732 29 1.00642 34 0.91149 35 1.04170 1 1533.4 404.0 0.023B 9.70 4 0.95223 7 0.96496 12 0.96496 17 1.01552 24 0.96678 30 0.99115 41 0.88785 36 1.02970 2 1541.3 407.1 0.0238 9.72 3 0.88785 8 0.98424 13 0.96859 18 0.98569 25 0.95186 31 0.98460 42 0.88494 37 1.81479 3 1536.6 409.7 0.0238 9.78 2 1.08462 9 0.97623 14 0.97041 19 0.98169 26 0.96969 32 0.97078 39 0.86930 38 0.93440 9.70 4 1558.2 412.7 0.0236 1 1.14937 10 0.96387 15 0.98996 20 0.97114 27 3.98787 33 0.95696 40 0.89985 43 9.90058 9.75 5 1555.5 414.0 0.0237 21 0,95696 28 0,99115 9.71 6 1540.8 416.6 0.0240 TEMP 98.8 0.901 10.634 5.2 MACH R/L 6.945 PΤ 18.011 PS WIND TUNNEL TEST CONDITIONS..... 0 0.00 ROLL 0.0 BETA MODEL ATTITUDE..... ALPHA 0,02 PSM(22)/PSA= 0.9128 PTC/PSA# 145.22 AVERAGE HODEL/NOZZLE PARAMETERS., PTC= 1544.3 TC= 410.7 HEATER TOTAL TEMPERATURE: 480. HEATER PARAMETERS..... HEATER TOTAL PRESSURE: 1700.

TEST	575	તે	518/1
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-SEC TRISONIO WIND	TUNNEL	HUNTSVILLE,	ALAGAYA
PLUME TECH OLDGY	TEST	NON-QUIESCE IT	PHASE

A-346

FRAME	÷SA		PTC	SKIN(1)	SKIN[2]	SKIN[3]	SKIN[4]	SKIN[5] 40	DEL-STING F	EEDER-PIPE	TCH
1	16.	3 18	65.01	1866.1	113.9	123.1	124.4	151.7	198.6	498,5	432.
2	12.5		68.70	1865.2	117.1	121.8	123.6	150.0	209.8	436.5	406.
3	10.6	3 18	366.97	1869.2	116.2	121.0	123.6	150.9	221.1	477.3	408
4	10.6	3 18	65,54	1366.1	114,9	119.7	123,6	152.6	228.5	469.7	410.
5	10.6	4 16	370,28	1870.3	115.8	119.7	124.4	151.3	238.0	466.9	414.
6	10.6	5 16	196.59	1898.7	115.8	118.8	125.3	152,5	243.6	463.9	416.
		<del></del>				NO PSM/PSA	NO DEM/DEA	NO PSH/PSA	NO PSH/PSA	NO PSH/PSA	NO PSM/F
FR PTC		47/PTC				7 11 0.95466					
	5 403.2		9,97			7 12 0.96048					
2 1869.	7 406.6	0.0236	9.95			7 13 0,96994					
•	5 408.8		9,97			7 14 0.9 <b>724</b> 8					
	1 411.B		9,98	2 1.08595	9 0.97/5/	1 15 0.98412	17 0.70012	27 0 00430	33 n. 97 î n.	4n n.94557	43 0.932
5 1870.	8 414.4	0,0238	9,98	1 1,14887	10 0.9652	1 15 0.90412				40 000	
6 1898.	2 417.5	0.0236	10,00		.=		21 0.97103	28 0.99612			
			· · · · · · · · · · · · · · · · · · ·					20 5 2	HACH	0.901 TEMP	98.7
MDDEL AT	TITUDE	771.5 0	L D A M F T F R S	G 6.0 ALPHA E., PTC# 187 HEATER T	0,02 BE	R. 410.4	ROLL C	7.0	PS#[221/P8	Ap-0.9378	
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31 409087	19/3		-850 73 Plumb	RISCHIO "I P	TUNNEL TESTO	-U.TSTILLE, K-GUISSCENT	ALARAMA Phase		TEST 575	~U. 519/0
FRAFE	PSA	PTC	SN[N[1]	SKINI21	-TEMPERATURI SKIN[3]	E DATA-T-DE SKIN(4)	GREES FAHREN SKIN[5] MOE	CHEIT	EDEA-PIPE	TCH
	7.33	1065.54	1667.1	96.7	93.2	93.2	147.8	191.6	464.7	374.6
<u> </u>	7.34	1668.70	1872.4	Ģ5.4	93.2	94.5	150.9	202.9	449.5	374.1
	7.34	1896.07	1894.0	96.2	94.1	95.8	156.0	212.0	439.6	375.4
	7.33	1886.80	1879.7	95.8	93.2	97.5	151,3	219.8	430.9	376.3
		1898.70	19^1.9	97.1	94,1	98.8	148.3	226.7	426.1	378.5
	7.34	1902.38	1905.0	97.5	94.5	100.1	148.3	232.4	422.2	379.8
FR PTC	TC P47/	PTC PORT-22	NO PSY/PS4	NO PSHIPSA	NG PSM/PSA	NO PSH/PSA	NO PSMIPSA	NO PSH/PSA	NO PSM/PSA	NO PSHIPSA
1 1868.7	374,6 0,0	237 6.86	5 0.88796	6 0.99658	11 0.96600	16 1.04351	23 0.93753	29 1.03982	34 0.93858	35 1.13843
	375.0 0.0	=	4 0.76194	7 D.97866	12 0.97655	17 1.07515	24 0.99606	30 1.01662	41 0.84420	36 1.00238
	375.9 0.0		3 0.94702	6 0.97444	13 p.94491	18 1.94879	25 0.93278	31 0.99711	42 0.84314	37 1.01926
		<del></del>	2 1 30136	9 4.99395	14 0.99026	19 1.03771	26 0,99500	32 0.97391	39 0.83101	38 g.94016
	376.7 0.0		2 1100100	40 0 07549	15 1.00397	20 1.02664	27 1.02559	33 0.99606	40 0.91169	43 0.85474
	379.3 0.0		1 1.33770	10 3.777-2	1, 1,000		28 1.02084			
6 1903,4	380,6 0.0	236 6,86								
HIND TUNNE	EL TEST CO	INDITIONS	Q 7.5	11 PT 1 0,00 BET	A 0.00		R/L 5.5		.210 TEHP	99.4
AUCOLOC M	へいじょ かいのフラレ	E PARAMETERS		15.9 TC=	: 377.0 JRE= 2100.	PTC/PSA= HEATER	237.09 TOTAL TEMPER	PSN[22]/PSA ATURE= 430.	F 814332	
						=			<del> </del>	

31 August 1774	 " MESSO TRISONIO MIND	TUNNEL	HUNTSVILLE,	AL APAY
31 MUGUS! 177	FLUME TECHNOLOGY	TEST	NON-QUIESCENT	PHASE

31 -TEMPERATURE DATA--- DEGREES FAHRENHEIT------SKIN[5] MODEL-STING FEEDER-PIPE TCH SKINI41 S\*[ \ [ 3 ] FSA PTC SKINELI SKINE21 FRAME 392.8 478,2 150.4 219.8 116.4 114.5 113.0 1219.22 1210.7 7.41 394.5 150.4 226.7 473.4 118.4 112.3 1223.4 113,6 7,43 1225.01 396.2 464.7 233.7 152.6 112.7 120.5 1229.2 114.0 1230.28 3 7.41 398.8 148.3 238.9 460.0 111.4 124.4 113.6 7,42 1225.01 1225.0 399.3 456.1 150.0 243.2 126.6 110.5 1237.12 1237.1 111.9 5 7,42 399.7 454.3 129.2 152.2 248.0 1246.1 114.0 111.4 7,42 1247.54 TO P47/PTC PORT-22 NO PSM/PSA NO PSM/PSA NO PSM/PSA NO PSM/PSA NO PSM/PSA NO PSM/PSA NO PSM/PSA NO PSM/PSA PTC FR 5 0.89216 6 0.99332 11 0.96464 16 1.01678 23 0.91719 29 1.03660 34 0.91302 35 1.13984 1 1220.3 392.8 0.0237 4 0.77223 7 8.97559 12 0.96151 17 1.06319 24 1.08218 30 1.08635 41 0.74773 36 1.88166 6,79 2 1224.5 395.4 0.0237 3 0.95630 8 0.99332 13 0.93596 18 1.01730 25 0.92397 31 0.98550 42 0.74512 37 1.02825 6,79 3 1230.3 396.7 0.0237 2 1.29575 9 0.98185 14 1.00583 19 1.01157 26 1.00010 32 0.99175 39 0.73000 38 0.93387 4 1224,5 399.3 0,0239 6.78 1 1.35571 10 0.97298 15 1.00375 20 1.00276 27 1.01470 33 6.98654 40 0.77693 43 0.76024 6.79 5 1236.6 399.3 0.0238 21 0,98915 28 1.02617 6 1248.2 480.6 0.0237 6.80 98,2 MACH 1,201 TEMP 18.007 7.418 7.484 WIND TUNNEL TEST CONDITIONS..... @ 0.00 ROLL HODEL: ATTITUDE..... ALPHA 0.00 BETA PSM1221/PSA= 0,9155 PTC/PSA= 165.91 AVERAGE MODEL/NOZZLE PARAMETERS.. PTC= 1230.7 tC= 397.3 HEATER TOTAL TEMPERATURE: 465. HEATER PARAMETERS..... HEATER TOTAL PRESSURE 1300.

TEST 575

RUN 621/8

	31 A	JGUST	1973		<del></del>			PLUI	TRISO HE TE	MIC WI CHNOLO	ND TU BY TE	NNEL STN	HUNTS   UD-NO	ESCEN	T PHA	BAHA SE				'EST 575	- R	UN 622/0
	FRAI	4F	PS	<u> </u>	P	TC	SKIN	11		N(2)		PERATUI N(3)		AD						ER-P[PE		TCH
	1	<u> </u>		.48	81	8.70	819	.7	10	08.0	1	11.0	10	7.5		46.3		182,9		561.8		385.4
		2	7	.50	81	7.12	818	.2	1	08,4	1	10.6	10	9.3	1	52.2		191.2	2	544.1		386.7
		<u> </u>	7	.51	81	9.75	818	.7	11	06.2	1	8.80	10	8.8	1	52.6		198.1	l	528.0		367.6
		3	7	.50	82	5,54	825	.5	1	05.8	1	08.4	11	0.1	1	52,6		204.6	5	514.1		388.4
		<u> </u>		.49	82	5,54	824	.5	10	07.1	1	08,4	11	1.4	1	51.7		211.1	<u> </u>	503.3		389.7
		<u> </u>		.48	83	2.91	830	.8	11	05.8	1	07.5	11	1.9	1	52.6		210.3	5	492.9		389.3
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	FR	PTC	ŢÇ	P47/P	TC I	PORT-22	NO PS	H/PSA	NO	PSH/PS	A NO	PSH/PS/	A NO P	SH/PS	A NO	PSH/PS	A ND	PSM/F	SA NO	PSH/PS	A NO	PSN/PSA
	1 &	17.1	385.	0 0 02	38	6,81	5 0.	89247	6 (	.9881	8 11	0.96133	3 16 1	.0088	3 23	0.9014	4 29	1.034	113 34	0,9035	1 35	1.14152
	2 8	14.5	387.	1 0.92	39	6,83	4 0.	79612	7 (	. 9515	3 12	0.94533	3 17 1	.0475	6 24	0.9933	4 30	8.986	78 41	0.6655	0 36	8.99799
<u> </u>	3 8	19.2	387.	5 0.62	38	6,83	3 0.	95514	8 (	.9995	4 13	0.94275	5 18 1	.0872	8 25	0.9195	2 31	0.984	05 42	0.6701	5 37	1.02329
	4 8	24.5	389.	7 0.02	37	6,84	2.1.	28846	9 (	.9742	1 14 :	1.00625	5 19 1	.0078	26	9974	8 32	0.987	15 39	0.6407	2 38	0.93449
	5 8	26.1	390.2	2 0.02	37	6,81	1 1.	35639	10 6	.9675	3 15 :	1.00264	20 0	.9881	8 27	1.0124	5 33	0.977	86 40	0.6706	6 43	0.67479
	6 8	32.4	390,2	0.02	36	6,81	<u> </u>						21 0	.98044	1 28 :	1.0305	2					
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	MODEL	ATTI Ge Ho	TUĐE.	OZZLE	PARA	METERS	ALP	- 82	0.02 2.3	BE1	386	8.00	ROLL PTC/	PSA=		5.5 76 TEMPE	PSHI			.9105 ·	Ρ (	97.2 
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	31	AUGUST	1973							D TUNNEL Y TEST.		NTSVILLE QUIESCEN		ia		16	ST 575	RUN	623/0
	FR	AME	PSA	· · ·	PTC	****	SKIN(1)	SKIA	1121	-TEMPER/ SKIN(3)		DATAD Kin(4)	EGREES F SKIN(5	AHREN	HETT	FEEDL	P-PIPE	T	<u>с</u> н
		1	5.	23	890.8	0	890.8	10	4.9	113.6	•	127.9	151.	3	195.5		555.3	3	88.9
	<u> </u>	2	5,	25	675,5	4	875,5	1	3.2	111.5	· ·	128.8	148,	7	201.6		537.5	3	91.0
		3	5.	27	851.8	5	851.9	. 10	2.7	111.0	)	129.2	150.	0	209.0		522.4	3	91.5
		4	5.	26	848,7	0	848.2	16	1.4	109.		129.2	151.	7	213.3		509.8	3	90.6
		5	5.	24	843.9	6	842.4	10	2.3	109.	3	128.8	148.	7	218.9	·	498.1	3	92.3
		6	5.	26	847.6	4	<u>\$46.1</u>	10	1.9	108.	l	130.1	150.	0	222.8	···	489.0	3	92.3
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	FR	PTC	TC	<u> 247/PJ</u>	C POR	T-22:	NO PSH/PS	A NO F	SH/PSA	NO PSM	PSA N	O PSH/PS	A NO PSH	I/PSA	NO PSH/PS	A NO	PSH/PSA	NO PS	H/PSA
	1_	890.3	369.3	0.023	9 5	.08/	5 0.6832	2 6 (	. 89869	11 0.93	3773 <u>1</u>	6 g.9487	8 23 0.9	2889	29 0.9583	5 34	0.9'751	35 g.	98487
	2	874.5	391.0	0.023	9 5	. 26	4 0.7815	6 7 (	.93110	12 0.94	509 1	7 0.9473	0 24 1.0	1065	30 0.9878	2 41	9.75578	36 1.	13441
<del></del>	3_	850.3	391.5	0.024	1 5	.07	3 1.0349	6 8 1	.04454	13 0.90	3130 1	8 0.9671	9 25 0.5	2226	31 1.0003	4 42	0.74399	37 1.	05412
	4	848.2	391.2	0.423	9 5	, 05	2 1.3907	5 9 (	.99813	14 0.9.	625 1	9 6.9730	9 26 0.5	0826	32 1.0010	8 39	0.71158	38 1.	06737
	5	846,6	392.8	0.823	9 5	-84	1 1.4430	5 10 1	.80482	15 0.94	141 2	e 1.0121	3 27 0.5	4067	33 1.8091	8 48	0.74841	43 g.	73221
	6	847,1	392,3	0.023	8 5	. 97					2	1 1.0003	4 28 6,9	3699					<del></del>
				···········			<u> </u>												
	MIN	D TUNNI	EL TES	T COND	ITIONS	••••	<u>, 0 7.</u>	755	PT 1		PS R	5.251 OLL	R/L	5.4	MACH	1.453	TEMP	98.	6
<del></del>	AVE	RAGE M	ODEL/N	OZZLE	PARAME	TERS.	. PTC= 8	59.5	TC=	391.3	P	TC/PSA=	163.68		SH[22]/PS		9649		· <del></del> -
	TER	IEN PA			•••••		· HEATEN	TOTAL			· · · · · · · · · · · · · · · · · · ·						<del></del>		<del></del> .
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	3	1 Augus	ST 1973								•	=-	
			19/3	<del></del>		HSFC PLI	TRISONIC W JME TECHNOL	IND TUNNEL DGY TEST	HUNTSVILLE	ALABAMA		TEST 575	RUN 624/6
		FRAME	PSA		PTC	SKINI11	SKIN[2]	TEMPERATU SKIN(3)	RE DATAD SKIN(4)	EGREES FAH	RENHETT	+	
<del>-</del> ·	<del>-</del>	1	÷.2	3 1	1209.22	1209.7	132.2	141.3		2414(3)	ODEL-SIING F	EEDER-PIPE	TCH
<del></del>		. 2	5.1	8 1	210.28	1209,7	130.1	138.7	145.2	152.6	192.0	505.5	376.3
	· · ·	3/_	5.2	0 1	217.12	1215.0	129,6	137.0	145.2	152.6	200.7	488.6	377.6
		4	5.2	1 1	213.43	1212.9	128.3	134.4	144.4	151.3	208.5	475.6	379,8
•		5	5.2	1 1	223.96	1222.4	127.9	133.5	144.4	147.8	213.7	463.4	381,5
··· <u></u>		6	5,2	0 1	227.64	1227.6	125.7	130,9	144.4	148.3	219.8	455,2 448,2	382.8 384.5
	<del></del> -	<u></u>		<del> </del>	<u> </u>							44018	354.5
	FR	PTC	TC P4	17/PTC	P0RT-22	NO PSM/PS	NO DELLAR		:	······································			
	1	1208.2	375,9 0	.0237	5.05	5 0.88420	4 0 0000	NO PSM/PSA	NO PSH/PSA	NO PSH/PS/	NO PSM/PSA	NO PSM/PSA N	O PSH/PSA
			378,9 0			ALTONE	0 0.7027	11 0,95327	16 8.96144	23 0.93841	29 0.04862	14 - 04-7	
(			380,2 0		5.01	3 1 02088	/ 8.73713	12 0.93841	17 0.95327	24 1.00676	30 0.99636	1 0.82324 3	6 1,12861
			382.4 g		5.01		0 1102000	19 0.42451	15 8.96218	25 0.93766	31 1.01848	12 0 R1507 T	7 4 45054
			383.2 0		5.02	1 1.44214	7 0.70817	14 0,94286	19 0.97333	26 9.91315	32 1.00528 3	9 0.80021 3	8 1.07809
			384,5 0		5.01	2 2711220	70 7:0005	1> 8.93841			33 1.01568 4	0 0.86782 4	3 0.81804
<u> </u>	<del></del>					_			21 1.00973	28 0.93841		<del></del>	
	HIN!	TUNNE	L TEST (	CONDIT	IONS	. 0 7.79	53 PT 10	8.011 PS					
	AVER	RAGE NO	DEL /NOT	71 E DAG		. ALPHA	0.02 BET	A 0.00	ROLL 0. PTC/PSA= 2	233.71	MACH 1.4 PSH[22]/PSA= TURE= 440.		98.6
	-			<del></del>		:	<u></u>		5-7-CR 10	THE TENTER	IUKE 440.		
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	31 AUGUST	1973	1.00 · 2.00 · 1.		TRISONIO WI ME TECHNOLO		HUNTSVILLE. ON-GUIESCE''			TEST 575	484 6257¢
-	FRAME	ËSA	PTC	SAIN[1]	5n[n[2]	TEMPERATU SKIN[3]	SKIN[4]		NHEIT		TCH
	7 H M T T	5, <u>1</u> 4	1565.54		137.4	151.3	157.8	150.0	218.5	513.3	305.4
	<u> </u>	5,13			135.7	147.0	156.9	150.9	226,3	491,6	385.0
					133.1	144.6	155.2	152.6	230.6	471.2	383.2
	<u> 3</u>	5.13	1559,75		130.9	-	154.8	150.0	235.8	456.1	382.5
			1565.54			141.8			···································		383.2
		5.14			129.2	139.2	153.9	148.3	240.2	446,1	
<del></del>	··· — •	5,10	1559.75	1561.3	128.3	137.9	153.5	152.6	244.1	437.6	382.4
	<del></del>						<u>-</u>				<del> </del>
	FR PTC	TC P47			A NO PSM/PS	A NO PSH/PS	A NO PSH/PS/	NO PSH/PSA	NO PSM/PSA N	O PSM/PSA	NO PSH/PSA
		385.8 D.							29 0.93071 3		
·		385.4 0.							30 0.97812 4	···········	
		384.5 0.							31 1.02627 4		
		382.8 5.							32 1.00671 3		
		382.8 g.							33 6,99316 4		
		382.8 0.		03		<u> </u>		5 28 0.94426		<del></del>	
·						<del></del>			<u></u>		
·	WIND TUNN	EL TEST C	ONDITIONS.	Q 7.	746 PT	18.004 PS	5.141	R/L 5.3	MACH 1.4	67 TEMP	98.8
	MODEL ATT	ITUDE		ERS., PTC= 15	1.00 BE			1.0	PSM[22]/PSA=		
	HEATER PA	RAMETERS.	******	HEATER	TOTAL PRESS				ATURE 430.		<del></del>
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			PEUN	E TECHNOLO	BY TEST	N-GULESCENT	PHASE			
				SKINE21		E DATAPE Skin(4)	GREES FAF-	NUEIT-LELLE DEL-STING F	<u></u>	*04
FRAFE	-5A	PTC_	SKIN[1]		49.3	1.1.	152.2	279.6	557.5	359.7
<u> </u>	<u> </u>	1925,54	192	95.2	<del> </del>	101.0	152.2	250.0	521.2	3:7.6
4	••	1922.91	1922.9	95.2			147.6	261.8	495.5	389.9
3	50	19:3,43	1954.5	96.7	96.0	151.0	<del></del>	565.5	474.5	368.0
4	5.14	1917.64	1926.3	95.2	93.1	161.4	147.à		<del></del>	
	_5.12_	1912.91	1914.6	97.1	98+4	101.4	147.6	252.7	459.1	387.6
=	, <u>(</u> 5.39),	1938.70	1939.2	96.2	97.1	191.9	150.9	292.7	447.4	396.3
										· ·
FR PTC	IC P47/	PTC PORT-	22 40 PSM/PS							
1 1928.2	389.7 0.0	0235 4.9	5 0.8568	7 6 G 8439	2 11 0.93456	5 16 1.0031	1 23 0.9079	29 0.92770	34 0.96274	35 3.97264
2 1922.4	389.7 0.0	0235 4.9	95 4 0.7814	6 7 8.9330	3 12 0,94294	1 17 0.9749	3 24 0.9612	2 30 0.95131	41 0,91399	36 1,14554
3 1906.1	· <del>-</del>		9 3 0.9787	3 8 0,9840	7 13 0.92999	18 0.9695	9 25 0.9292	3 31 0.98864	42 0.92389	37 1.66632
4 1916,1			5 2 1.3511	9 9 1.0046	3 14 0.94827	7 19 0.9640	7 26 0.9025	7 32 1.02062	39 0.92161	38 1.07851
	387.5 5.0				54 15 D.98635					
	386,7 0,0			· · · · · · · · · · · · · · · · · · ·			7 28 0.9536			
			***	······································						
MIND TUNNE	L TEST CO	ONDITIONS			18.013 PS		R/L 5,3	MACH 1	.476 TEMP	99.3
MODEL ATT	TULE	F PARAMETE	RS. PTC= 19	21.2 TO	ETA 0.00 C= 388,6 SURE= 2100.	PTC/PSA=	0.0 378.30 TOTAL TEMPE	P\$H[22]/P\$/		
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	3ว ลีบัติบริก	1¢7				RISCAID +1: E TECHVOLOG		H: TSVILLE. G-QUIESCENT			ללכ זפבי	न्तर, 627/a ————
	FRANE	25 <u>4</u>		PTC	SKIN[1]	5KIN(2)	- 2k1, (3) - 1Exaga*10d	€ DATAFE SKIN[4]		NHEIT CFL-STING F		TCH
		·			1612.9	115.4	124	136.1	153.3	199.0	484.2	394.5
<del></del>	<u>1</u>		-	.011.33								393.2
	<u> </u>	1.1		.6 <u>51.33</u>	1802.4	113.6	122.7	134.5	152.2	215.5	469.5	394.5
	3	1.1		799,60	1792.9	114.6	121.4	134.4	154.4	229.8	459.1	394.9
-	4			794.49	1795,5	114.7	120.5	133,1	152.6	241.9	450,4	<del></del>
<del></del>	5	1.•3		798.70	1799.2	112.7	119.7	133.1	150.9	254.0	445.2	396.7
	6		21 1	816.59	1812.9	111.4	118,4	132.2	150.0	263.1	439,6	397,5
	FR PTC	TC !	P47/PTC	PORT-2:	2 NO PSM/PSA	NO PSM/PSA	NO PSM/PSA	NO PSM/PSA	NO PSM/PSA	NO PSM/PSA	NO PSM/PSA	NO PSH/PSA
	1 1809.7	394.1	0.0237	1,25	5 0.83678	6 0.87499	11 0.94249	16 0.98452	23 0.94249	29 0.94186	34 1.00618	35 0.71260
	2 1806.1	393.2	0.0236	1.25	4 0.78265	7 0.87881	12 0,99535	17 6.96478	24 0.98516	30 0.94950	41 1.18831	36 0.91320
	3 1790.3	394.5	9.0237	1,25	3 1.45768	6 0.92785	13 0.99853	18 0.98707	25 0.98007	31 0.95077	42 1.18003	37 0.98198
	4 1794.5	395.4	0.0237	1.26	2 2:59250	9 0.99726	14 0.96733	19 0.99408	26 0.96669	32 0.94759	39 1.24626	38 1.01063
	5 1799.7	396,7	0.j237	1,26	1 2,62561	10 0.97434	15 1.01000	20 1.03420	27 0.98516	33 0.94377	40 2.95230	43 1.21569
	6 181P,2	398,0	0.0235	1,26				21 0.99280	28 8,97688			
	MODEL ATT	TTUDE.	DZZLE P	ARAMETER	Q 10.2 ALPHA S., PTC= 180 HEATER T	0.02 BET 3.1 TC=	395.3	ROLL 0 PTC/PSA= 1	R/L 10.5 .0 484.28 OTAL TEMPER	PSM{22}/PSA	= 1.0331	196,3
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<u> </u>			<del></del>		TELECTICS.	T 65.43 .85	ASSESS ELUSS	un <b>err</b> en 2000.		
FRAME	FSA	PTC	SKIN(1)	SKINISI	SKIN[3]	SKINI41		BEL-STING F	EEDER-PIPA	TCH
1	1.21	1465.54	1467.1	101.0	183.6	149.3	156.0	167.8	525.4	391
2	1.21	1457,64	1459.7	100.6	1:3.2	115.8	147.0	186.8	505.5	394
3	1.21	1472.91	1475.0	100.1	172.3	109.4	151.7	202.9	496.3	395
4	1.21	1464,49	1466.1	99,3	101.4	108.4	147,6	216,1	476,2	398,
5	1.21	1490.80	1491.9	100.6	101.4	108.8	150.4	230.6	470.4	401
6	1.21	1482.91	1482,4	99.7	101.4	109.3	148.3	241,5	463.4	402
	<u> </u>		·	<del></del>			· · · · · · · · · · · · · · · · · · ·			
FR PTC	TC P47/1	PTC PORT-22	NO PSM/PSA	NO PSH/PSA	NO PSM/PSA	NO PSH/PSA	NO PSY/PSA	NO PSM/PSA	NO PSH/PSA	NO PS4/
1 1462.9	391.5 0.0	238 1.21	5 0.82937	6 0.87396	11 0.94085	16 0.98289	23 0.94212	29 0.94148	34 0.95613	35 0.71
2 1458.7	394.9 0.02	238 1.21	4 0.77841	7 0.87906	12 0.99563	17 0.96441	24 0.98416	30 0.94976	41 1.05678	36 0.91
3 1472,9	396.2 0.02	237 1.21	3 1,47146	8 0.92619	13 0.99881	16 0.98671	25 0.98034	31 0.95104	42 1.07461	37 0.98
4 1464.0	398.0 0.02	239 1.21	2 2,59258	9 0.99626	14 0.96378	19 0.99435	26 0.96441	32 0.94530	39.1.12749	38 1.00
5 1489.7	401.0 0.0	236 1.22	1 2.62570	10 0.97397	15 1.01028	20 1.03194	27 0.98671	33 0.94339	40 2.49321	43 1.19
6 1484.0	401.9 0.02	239 1,22				21 0.99308	28 0.97588			
	· · · · · · · · · · · · · · · · · · ·			······································						
		NDITIONS			0.031 PS		R/L 10.5	MACH 3	.480 TEMP	107.3
AVERAGE MO	DEL/NOZZLI	E PARAMETERS	PTC= 147	0,02 BET 2.0 TC=	397.2	PTC/PSA= 1		PSH[22]/PSA		
HEATER PAI	RAMETERS,.		HEATER T	OTAL PRESSU	RE= 1600.	NEATER T	OTAL TEMPER	ATURE: 470.		
					<b>-</b>					
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JE AUGUS:	14/3		PLU	ME TECHNOLO	GY TEST	M-QUIESCENT	PHASE			
		· · ·				E DATADE	GREES FAHRE	NHETT		TCH
FRAME	PSA	PTC	SK [ 1 [ 1 ]	2K1N[2]	2k1, (3)	SK19141	SKIVIDI 401	CEL-STING FEE		_
1	1,21	1167.12	1159.2	127.5	136.1	<u>147.8</u>	15ú · 4	218.5	44ē.7	373.7
2	1,21	1165.01	1165.5	125.3	134.0	146.5	152.2	227.6	443,5	375,9
3	1.21	1174,49	1173.4	125.7	133.5	146.1	151.7	237.1	445,9	361.1
4	1.21	1184.49	1184.0	123.6	132.2	144.4	150.9	245.8	437.0	384.5
	1.21	1197.12	1196.1	123.1	130.9	143.5	15û.4	253.6	437.û	388.0
5		1197,12	1196.6	122.3	129.5	142.6	151.3	261.0	435.7	389.7
6	1.21	1177.915								
		OTC DOST	as un Pen/Pe	A NO PSM/PS	SA NO PSM/PS	NO PSH/PSA	NO PSH/PSA	NO PSM/PSA N	O PSM/PSA	NO PSM/PSA
FR PTC			22 NO 151713	to 6 n 873	28 11 0.9452	5 16 0.98412	23 0.94271	29 0.94335 3	4 6.93869	35 0.71086
	373.3 0.0		y 5 0.0207	(i) 0 0,070	24 13 0 0042	2 17 0.96310	24 0.98348	30 0.95099 4	1 0.96055	36 0.91150
	376.7 0.0		9 4 0.7822	20 7 0.877	74 12 0,4402	. 40 0 08603	25 0-97775	31 0.95036 4	2 0.96955	37 0.97775
3 1176.1	381.5 0.0	0237 1.1	19 3 1,4459	92 8 0.928	70 13 0,4401	5 10 0.900U	26 0 96437	32 0.94590 3	9 1.08131	38 1,00450
4 1164,5	385.0 0.0	0236 1,1	19 2 2,5829	90 9 0,995	58 14 0,98/5	14 0.4417C		22 n 04735 4	in 1.99543	43 9.98539
5 1197.1	387.6 0.0	0235 1.	20 1 2,6166	66 16 6.973	92 15 1.0089			3 3 0. <b>9433</b> 5 4		<del></del>
6 1197.6	390.6 0.	0237 1,2	20			21 0.99240	28 0.97583	<u> </u>		
										107.7
HIND TUNN	EL TEST C	ONDITIONS.	Q 18	.292 PT	90.036 PS		R/L 10.5			107.7
HODEL ATT	TTUDE		ALTON	484 T	Cs 382.4	OTP/DCA=	972.68	PSHL221/RSA= RATURE= 475.	0.9840	
HEATER PA	RAMETERS.		HEATER	TOTAL PRES						
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				·		14.				

	30 Ac	JGUST	1973			MSFC PL	TRI:	SONIC WI TECHNOLO	ND TUNNEL GY TESTN	HUMTSVI OM-QUIES	CENT (	ALABAHA PHASE		-		FEST 575	<sub>к</sub>	UN 63070
<u> </u>	FRAM	·E	PS	<u> </u>	PTC	SKIN[1]	Sı	KIN(51	TEMPERATU SKIN[3]	RE DAYA- Skin(4	DEG(	REES FAHR Skin[5] H	ENHE ODEL	ST146	 FEEC	ER-PIPE		TCH
	1		1	.21	810.80	811.9		128.3	137.0	149.	1	150.0		208.1		504.2		388.0
	2	!	1	21	612.38	812.9		127.5	135.7	147.	8	150.9		218,5		497.7		392.3
		<u> </u>	1	21	809,75	809 : 7		127.5	135.3	146,	5	150.4		228.5		492.9		397,5
			1.	21	815,54	620.3		124.9	133.5	145.	2	152.6		236.7		487.7		461.4
<del></del>			1.	21	825,54	820.8		125.7	132.2	144.	•	148.3		244.9		484.2		406.2
	6	<u> </u>	1,	21	828,17	828,2	-	124.4	130,9	143,	5	148.3		253.2		482.1		409.7
										<del></del>	<del></del>							
	FR	PTC	TC	P47/PT	PORT-22	NO PSM/P	SA NO	PSM/PS	A NO PSM/PS/	NO PSH	PSA N	10 PSH/P\$/	A NO	PSM/PS/	NO NO	PSH/PSA	NO	PS#/PSA
·-·	1 8	09.7		0.024					5 11 0.94590									
	2 8	12.4	392.3	0.023	1.19				12 0.99685		_							
(	3 8	07.6	397.5	0.024	1,19				13 8,99813									
<u> </u>	4 8	13.4	401.4	8.024	1.19				14 0.96755	_								
	5 83	24.0	406.2	0,023	1,19	1 2.613	48 10	8.9732	15 1.00896	20 1.03	861 2	7 0.98348	33	0.94206	40	1.36859	43	0.82806
	6 8;	27.6	409.7	<u> 0.023</u>	1,19		· 		-	21 0.99	240 2	8 0.97583	5					
	NIND 1	LUNNE	LTES	T COND	TIONS	0 10.	292	PT S	0.036 PS	1.215	R/	i 10.5		ACH 3	.4.	a TEMP	16	7,6
···	AVERAG	ATTI ON 38	TUUE. DEL/N	OZZLE F	ARAMETERS	ALPHA PTC= 1	115.8	02 BE1	A 0.00	ROLL PTC/PSA	9.8		PSH	[22]/PSA				
	MEVIE	PAR	AMETE	RS	*******	HEATER	TOTAL	L PRESSU	RE= 900.	HEATE	R TOT	AL TEMPER	AYU	RE= 315.				
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HIND TUNNEL TEST CONDITIONS Q 18.290 PT 90.025 F3 1.217	769.7 731.3 701.4 678.9 660.7 647.7	70H 550.1 551.3 551.9 553.2 553.6
1 1.21 1026.59 1610.6 97.5 163.2 164.5 150.9 555.3  2 1.21 1599.75 1666.3 96.2 161.4 165.3 148.7 550.6  3 1.21 1608.17 1604.5 96.2 101.4 165.3 148.7 550.6  4 1.21 1613.43 1610.3 97.1 171.4 107.1 151.3 546.4  5 1.21 1632.91 1634.5 97.1 101.4 108.8 152.2 546.2  6 1.21 1638.7C 1639.7 97.5 101.9 111.0 152.6 543.6  FR PTC TC P47/PTC PORT-22 ND PSM/PSA ND	769.> 731.3 701.4 678.9 660.7 647.7	551.3 551.9 553.2 553.6 553.6
2 1.21 1597.75 1606.3 96.2 161.4 165.3 148.7 550.6  3 1.21 1608.17 1604.5 96.2 101.4 165.3 148.7 550.6  4 1.21 1613.43 1010.3 97.1 101.4 107.1 151.3 546.4  5 1.21 1632.91 1634.5 97.1 101.4 108.8 152.2 546.2  6 1.21 1638.70 1639.7 97.5 101.9 111.0 152.0 543.6  FR PTC TC P47/PTC PORT-22 NO PSM/PSA	701.4 678.9 660.7 647.7 PSA NO PSM/PSA 528 34 0.99381	551.9 553.2 553.6 553.6
5 1.21 1632.91 1634.5 97.1 101.4 108.8 192.2 940.2 6 1.21 1638.70 1639.7 97.5 101.9 111.0 152.6 543.6  FR PTC TC P47/PTC PORT-22 NO PSM/PSA NO	678.9 660.7 647.7 PSA NO PSM/PSA 628 34 0.99381	553.2 553.6 553.6
3 1.21 1608.17 1804.5 76.2 11.1 161.4 107.1 151.3 548.4 1 1.21 1613.43 1610.3 97.1 101.4 107.1 151.3 548.4 5 1.21 1632.91 1634.5 97.1 101.4 108.8 152.2 546.2 6 1.21 1638.70 1639.7 97.5 101.9 111.0 152.6 543.6	678.9 660.7 647.7 PSA NO PSM/PSA 628 34 0.99381	553.6
4 1.21 1613.43 1610.3 97.1 101.4 108.8 152.2 546.2  5 1.21 1638.70 1639.7 97.5 101.9 111.0 152.6 543.6  FR PTC TC P47/PTC PORT-22 NO PSM/PSA NO	660.7 647.7 PSA NO PSM/PSA 628 34 0.99381	553.6
FR PTC TC P47/PTC PORT-22 NO PSM/PSA NO PSM/	954 NO PSM/PSA 628 34 0.99381	553,6
FR PTC TC P47/PTC PORT-22 NO PSM/PSA NO PSM/	PSA NO PSM/PSA 528 34 0.99381	
FR PTC TC P47/PTC PORT-22 NO PSM/PSA NO PSM/	28 34 0.99381	NO DEM/PE
FR PTC TC P47/PTC PORT-22 NO PSM/PSA NO PSM/	28 34 0.99381	NO PEM/PE
1 1601.3 550.1 9.0244 1.24 5 0.83136 6 0.87149 11 0.94221 16 0.98234 23 0.94030 29 0.92628 34  2 1601.9 551.4 0.0244 1.25 4 0.78294 7 0.88041 12 0.99636 17 0.96833 24 0.98425 30 0.94667 43  3 1617.1 552.3 0.0243 1.25 3 1.48243 8 0.92819 13 0.99827 18 0.98807 25 0.98107 31 0.94985 43  4 1618.2 553.2 0.0244 1.26 2 2.61894 9 1.00018 14 0.96387 19 0.99636 26 0.96705 32 0.94348 39  5 1635.0 553.6 0.0243 1.27 1 2.64442 10 0.97788 15 1.01165 20 1.03458 27 0.98935 33 0.94284 40  6 1639.7 554.9 0.0243 1.27 2.64442 10 0.97788 15 1.01165 20 1.03458 27 0.98935 33 0.94284 40  1 1001.3 550.1 9.0243 1.27 2 2.64442 10 0.97788 15 1.01165 20 1.03458 27 0.98935 33 0.94284 40  21 0.99062 28 0.98234	28 34 0.99381	
2 1601.9 551.4 0.0244 1.25 4 0.78294 7 0.88041 12 0.99636 17 0.96833 24 0.98425 30 0.94667 45  3 1617.1 552.3 0.0243 1.25 3 1.48243 8 0.92819 13 0.99827 18 0.98807 25 0.98107 31 0.94985 43  4 1618.2 553.2 0.0244 1.26 2 2.61894 9 1.00018 14 0.96387 19 0.99636 26 0.96705 32 0.94348 39  5 1635.c 553.6 0.0243 1.27 1 2.64442 10 0.97788 15 1.01165 20 1.03458 27 0.98935 33 0.94284 40  6 1639.7 554.9 0.0243 1.27 2.64442 10 0.97788 15 1.01165 20 1.03458 27 0.98935 33 0.94284 40  HAND TUNNEL TEST CONDITIONS 9 10.290 PT 90.023 PS 1.214 R/L 10.4 HACH 3.44	528 34 0.99381	
3 1617.1 552.3 0.0243 1.25 3 1.48243 8 0.92819 13 0.99827 18 0.98807 25 0.98107 31 0.94985 43 4 1618.2 553.2 0.0244 1.26 2 2.61894 9 1.00018 14 0.96387 19 0.99636 26 0.96705 32 0.94348 39 5 1635.0 553.6 0.0243 1.27 1 2.64442 10 0.97788 15 1.01165 20 1.03458 27 0.98935 33 0.94284 40 6 1639.7 554.9 0.0243 1.27 21 0.99062 28 0.98234		3> 1.8404
4 1618.2 553.2 0.0244 1.26 2 2.61894 9 1.00018 14 0.96387 19 0.99636 26 0.96705 32 0.94348 39 5 1635.C 553.6 0.0243 1.27 1 2.64442 LD 0.97788 15 1.01165 20 1.03458 27 0.98935 33 0.94284 40 6 1639.7 554.9 0.0243 1.27 21 0.99062 28 0.98234  HIND TUNNEL TEST CONDITIONS Q 10.290 PT 90.023 PS 1.214 R/L 10.4 HACH 3.40	66/ 41 1.10305	5 36 p.9046
4 1618.2 553.2 0.0244 1.26 2 2.61894 9 1.00018 14 0.96387 19 0.99636 26 0.96705 32 0.94348 35 5 1635.0 553.6 0.0243 1.27 1 2.64442 10 0.97788 15 1.01165 20 1.03458 27 0.98935 33 0.94284 40 6 1639.7 554.9 0.0243 1.27 21 0.99062 28 0.98234  HIND TUNNEL TEST CONDITIONS 9 10.290 PT 90.023 PS 1.214 R/L 10.4 HACH 3.44	985 42 1.18174	4 37 0.9772
5 1635.C 553.6 C.0243 1.27 1 2.64442 LO 0.97788 15 1.01165 20 1.03458 27 0.98935 33 0.94284 40 6 1639.7 554.9 0.0243 1.27 21 0.99062 28 0.98234  HIND TUNNEL TEST CONDITIONS Q 10.290 PT 90.023 PS 1.214 R/L 10.4 HACH 3.40	348 39 1.25118	8 38 1.0167
6 1639,7 554,9 0.0243 1,27 21 0,99062 28 0,98234	284 40 2.81961	1 43 1.2195
NIND TUNNEL TEST CONDITIONS Q 10.290 PT 90.023 PS 1.214 R/L 10.4 HACH 3.4	<del></del> _	
HIND TUNNEL TEST CONDITIONS Q 18.290 PT 90.025 PS 10.21		
	3,480 TEMP	P 108.7
HODE! ATTITUE ALPHA U.U BET 552.6 PTC/PSA= 1333.13 PSM1221/PSA=	PSA= 1.0346	
AVERIGE MODEL/NOZZLE PARAMETERS., PTC= 1618.9 TC= 552.6 PTC/PSA= 1333.13 PSATZZI/PSA= HEATER PARAMETERS	30.	

31 #05011			PLUPE	TECHNOLOG.	A 1661	-eul-sca .				
					-TEMPERATURE	DATADEG	REES FAHREN	HETTEL-STING FEE	DER-PIPE	TCH
FRAME	<u></u>	PTC	SKIN[1]	SKINTS]		- · · <del>-</del> -	151.3	421,4	782.0	522.8
11	5,1-	1133,43	1132.9	90.2	91.9	94.1	148.3	417.5	748.2	525.0
2	5.18	1115.01	1115.0	69.3	<u> </u>	94.9		413.6	719.6	526.3
3	5,18	1120,50	1119.2	89.7	91.3	95.4	150.4	411.0	697.1	527.1
4	5.15	1119.22	1121.3	90.6	91.9	97.1	152,2		677.6	527.6
5	5.21	1113,96	1113.4	91.5	92.3	98.4	152.6	408.8	661.5	528.4
6	5.19	1120.80	1120.3	92.8	92.5	100.1	147.8	406.2	00117	
									un Berzest I	
FR PTC	TC P47/	PTC PORT-2	NO PSH/PSA	NO PSH/PSA	NO PSH/PSA	NO PSH/PSA	VO PSH/PSA	NO PSM/PSA	NU PSH/FSA I	F A 9743
	4 523,7 0.0		E a 88493	6 0.98728	3 11 0.96841	16 0,93710	23 0.95723	29 8,91772	34 0.70002	
	1 526,3 0.0		4 0 70018	7 л.04679	12 0.93486	17 0,94386	24 1,01538	30 0.99450	41 0.82453	36 1,1301
	8 526.7 0.0			R 4.99972	2 13 0.95574	18 0.94754	25 0.93263	31 1.01612	42 0.82006	3/ 1.0/94
		-	0 4 77546	c n_9982	3 14 0.94903	19 0.97363	3 26 0.90877	32 1.91165	39 0,79918	38 1.000-
-	2 527.6 0.0		1 1.43808	8 10 D.9989	8 15 C.95052	20 0.97959	27 0.94530	33 1.01538	40 0.85882	43 0.8165
	0 528.0 9.0					21 1,01314	28 0.94530			
6 1121.	9 528.9 0.	<u> </u>				<u>-</u>		<u>,</u>		
			2.7.1	752 PT	18.011 PS	5,188	R/L 5.4	HACH 1	461 TEMP	99.2
		ONDITIONS	ALPHA	0.00 BE	TA 0.00	DYN/DC4+	0.0 216.00	R\$H[22]/P8A	0.9646	<del></del>
AVERAGE P	MODEL/NOZZ	LE PARAMETER	RS., PTCB-11	TOTAL PRESS	URE= 1300.	HEATER	TOTAL TENPER	ATURE 625.		
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			<u></u>		. <del></del>					
						<u></u> -				

31 AUGUS!			PLUM	<u>E TECHNOLOG</u>	Y TEST 10	- Jelescevi	PANSE		<u> </u>	
					-TEMPERATURI SKIN[3]	DATADEC SKINI41	GREES FAHREN SKIN[5] HOD	HETT EL-STING FEE	DER-PIPE	тсн
FRAME	PSA	PTC	SKIMELI	SKIN(2)		113.2	147.8	355.9	799.4	570.1
1	7,47	1553.43	1584.0	107.5	198.0			362.4	763.6	569.2
<u> </u>	7,47	1596.59	1594.0	108.8	1:9.3	115.8	151.3		732.2	569.2
<b>S</b>	7,45	1599.22	1683.4	108.4	108.4	118.4	147.8	369.8		558.8
4	7.50	1609.22	1613.4	108,4	108.4	120.5	148.3	373.7	706.B	
5	7,49	1631.85	1628.7	110.6	110.1	124.4	150.9	378.9	691.9	569.2
6	7.50	1625.31	1623.4	111.9	109.7	126.6	150.9	381.5	675.4	567.5
					<u> </u>					
					NO PSM/PSA	NO PSh/PSA	NO PSM/PSA	NO PSH/PSA	NO PSM/PSA	NO PSH/PS/
FR PTC	TC P47/		2 40 4247424	NO PORTO	44 0 07354	16 1.00709	23 0.91460	29 1.04068	34 0.92493	35 1,13782
1 1583.4	570.1 0.0	247 6,95	5 0.89490	6 6 0.9993	11 0,77321	17 4 06475	24 1 00563	30 1.00709	41 0.82986	36 1.00600
2 1600.3	570.1 0.0	245 6.95	4 0.7952	4 7 0.97500	12 0.9631/	1/ 1.00133	05 0 03773	31 0 99366	42 0.83089	37 1.0355:
3 1597.6	569.2 0.0	246 6,95	3 0.9714	4 8 1.0014	L 13 0.94509	18 1.00/01	25 0.73372	31 0,99366	70 n 81 9as	'9 a.958n
4 1606.1	568,8 0.0	246 6,96	2 1,3036	9 g.9838	4 14 1.02569	19 1.01588	3 26 1.010/1	32 1,00089	0, 0,01,01	43 0 8443
5 1634.0	569.2 0.0	243 6.97	1 1.3708	7 18 0.9864	2 15 1.01639			33 0,99004	40 0.03001	
	567.0 0.0		<b>.</b>			21 0.98384	28 1.03758			
			<u></u>							<u> </u>
	ici teet ci	ONDITIONS	7.	460 PT	17.996 PS	7.486	R/L 5.3	HACH 1.	193 TEMP	109.8
HODEL ATT	ITUDE	- BARIMETES	ALPHA		TA 0.00 * 569.1	DTC/DS4=	8.0 214.89	P\$M[22]/P\$A	0.9292	
AVERAGE MEATER PA	RAMETERS.	- PARAMETER	HEATER	TOTAL PRESS	URE= 1700.	HEATER	TOTAL TEMPER	ATURES 645.		
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31 AUGUST	19/3			RISONIC WIN E TECHNOLOG		M-ONIESCENT			TEST 575	#UN 634
FRAME	PSA	PTC	SKIN[1]	SKINE21	-TEMPERATUR SKIN[3]	E DATADE Skin(4)		NHEIT		TCH
1	10.62	1600.30	1600.2	146.7	161.7	170.4	151.3	291.8	765,1	571.
z	10,62	1595.54	1598.7	148.3	160.4	168.2	152.6	303.9	735.7	570.
3	10.63	1616.80	1610.8	146,1	157.â	167.3	151.7	314.3	712.2	570.
4	10.63	1619.22	1619.7	146.5	156.1	166.0	146.3	323,4	693.6	571.
5	19,59	1628,70	163ŷ.3	144,8	154.3	165.6	150.4	329.9	678.4	569.
6	10.59	1600,80	1601.3	144.4	153.5	165.2	152.6	337.3	668.3	569.
FR PTC	TC P47	/PTC PORT-22	NO PSM/PSA	NO PSM/PSA	NO PSM/PSA	NO PSM/PSA	NO PSH/PSA	NO PSM/PSA	NO PSM/PSA	NO PSM/P
1 1602.9	571.4 0.	0245 9,84	5 1.00042	6 0.98366	11 0.96106	16 0.98402	23 0.96252	29 1.01354	34 0.92899	35 1.038
2 1596.6	572.2 0.	0246 9.84	4 0.95559	7 0.96871	12 0.96835	17 1.01536	24 0.96944	30 0.99896	41 0.90894	36 1.030
3 1613.4	570.5 0.	0245 9.84	3 0,89436	8 0.99131	13 0.97710	18 0,99350	25 0.96069	31 0.99495	42 0,90858	37 1.025
4 1619.7	571.6 Q.	0245 9,86	2 1.09408	9 0.98402	14 0.97965	19 0,99240	26 0.97819	32 0.98366	39 0.89509	38 0.951
5 1623.4	569.6 0.	0244 9.82	1 1.15167	10 0.96580	15 0.98694	20 0.97782	27 0.99167	33 0.96871	40 0.92316	43 9.918
6 1605.5	570.5 0.	0248 9.83			· • • · · · · · · · · · · · · · · · · ·	21 0,96653	28 0.99495			
		ONBITIONS		47 PT 1	7.996 PS		R/L 5.0	HACH B	.902 TEMP	109.6
AVERAGE M	ODEL/NOZZI	LE PARAMETERS	PTC= 161	9.3 TC=	571.0	PTC/PSA=	151.72	PSM(22]/PSA: ATURE 045,	- 0.9269	
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	31 *	ÜGUST	19/3			PLUM	E TECHNOLO	ND TUNNEL BY TESTNO	N-QUIESCENT	PHASE			<u> </u>
			 Psa	· <del></del>	PTC	SK[N(1)	SKIN(2)	-TEMPERATUR SKIN[3]	E DATADE	GREES FAHRE! Skin[5] HOL	HETT	JER-PIPE	TCH
	FRA	1	10.		8.70	6.7	106.2	111.9	113.6	150.0	123.1	652.9	139.2
		2	10.		8,70	8.7	106.2	110.1	112.3	151.3	122.7	653.3	137.9
		3	10.		9.22	8.7	105.3	109.3	111.4	152.2	122.7	653.3	136.6
		4	10.		9.22	8.7	104.5	108.5	110.1	151.7	121.4	652.9	136.1
·		5	10.	58	9,22	8.2	184.9	107.5	189.3	148.7	121.0	653.3	136.1
<u>)</u>		6	10.	57	9,22	8.7	105.3	187.1	198.8	153.0	120.1	652.9	134.8
	<u>-</u>	<del></del>			•				•		•		•
	FR	PTC		 P47/PT0	PORT-2	2 NO PSM/PS	NO PSM/PS	A NO PSM/PSA	HO PSH/PSA	NO PSH/PSA	NO PSM/PSA	O PSM/PSA	O PSM/PSA
	1	9.2	140.5	1.0372	9,98	5 0.9963	6 0.9794	8 11 0,95389	16 0.97729	23 8.95755	29 1.00873 3	34 0.93122 3	35 1.04639
	2	9.2	139.2	1.0361	9,96	4 0.9582	7 0.9615	7 12 0.96816	17 1+02007	24 6.96340	38 8.99082 4	1 0.98782	36 1.02994
	3	9.7	138.3	0.977	9,94	3 9.8829	6 8 0.9842	4 13 0.96669	18 0.98716	25 8.94877	31 0.98679	12 0.90367	37 1.01458
	à	9,2	137.4	1.036	9,96	2 1.0847	8 9 8.9765	6 14 0.96962	19 0.98497	26 0.96925	32 0.97583	39 0.91294	38 8.94256
	5	9,7	138.3	9.976	9,95	1 1.1498	6 18 8,9626	6 15 0,98160	20 0.97692	27 0.98862	33 0.96486	48 6,98563	43 8,98197
	6	10,3	137.0	9301	9,95				21 0.96632	28 0.99191			<u> </u>
						0 4	073 PT	18.084 PS	10.579	R/L 5.2	MACH 0:	906 TEMP	96.9
	MOD	EL ATT	TTUDE	10771 E 1	DAGAMETER	ALPHA S. PTC= HEATER	0.00 BE	TA 8.80	ROLL PTG/PSAE	0.90 OTAL TEMPER	PSM(22)/PSA= ATURE= 0.	0,9412	<u></u>
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	31 AL	.6057	7473				PL	JME TF	CH40FGG	TURNEL V TESTN	N-QUIESCEN	T PHASE						
			•	-							DE CATALLAN		ENHE	TT	FERER			IIIII. TCH
	FRA	• <del>F</del>	► Ĉ	£	ETO		SKI* [1]	S*1	1121	2mlv[3]	SKINI41		0000			: 625.3		192.0
		<u> </u>	. 7	٠-٠	ź,	<b>J</b> 1	4.5	1	24.4	134.5	135.7	145.7		159.5				
		<b>4</b> .	7	.43	5.	.1	5	1	22.3	132.2	132.7	154		158.2		\$25		159.4
r		3	7	,43	5.	01	_ ث. خ	1	22.3	130.9	131.6	152.2		156.5		526.÷		188.1
		4		. 45	5.	ι <u>1</u>	5.1	1	21.5	125.6	129.2	152.2		155.6		o25.4		185.4
	:	 š	7	.44	5,	54	5.0	1	18.9	126.6	127.5	151.3		154.8		627.3		185.1
		6		.43			5.0	1	16,2	124.4	124.9	<u>14</u> 7.6		152.6		626.0		164-2
<u>.</u>						<u> </u>	<del> </del>											<del></del>
	FR	PTC	TC	P47/P	TC PI	RT-22	NO PSH/P	SA NO	PSM/PSA	NO PSM/PS	A NO PSM/PS	A NO PSHIPS	A NO	PSM/PSA	NO F	SM/PSA	ΝO	PS#/PS/
	1	6,1	192.	9 0,98	53	6,78					7 16 1.0097							
	2			9 1.07	_	6.78	4 0.781	21 7	0.96546	12 0.9576	5 17 1.0565	4 24 0.998	7 30	1.00033	41 1	75259	36	0.9935
	3			4 0.89		6,78	3 0.954	n1 8	0.99304	13 9.9383	9 18 1.0076	1 25 0.920	'c 31	0.97795	42 (	74894	37	1.02427
						6,79					1 19 1.0086							
	4			7 0.89							7 20 0.9951							
	5			1 1.06		6,78	1 1.370	no In	0.30000	12 110010		9 28 1.025						
	. 6	<u>5.5</u>	184,	2 1.06	27	6.78			<del></del>		51 0.4012	77 20 11025						
	LI T NA	TIME	CI TE	ST CON	ni710	NS	. a 7	.483	PT 1	.0.011 PS		R/L 5.	5 <u>M</u>	IACH 1	.199	TEMP		7,2
	HODE	L. ATT	ITULE	 NO771 S	DADA	METERS	ALPHA PTC= HEATER	0. 6.0	00 BE1 TC= L PRESSU	188.4	PTC/PSAs	0.0 0.80 TOTAL TEMP	PSH ERAT	(22)/PSA  RE= 0.		9126		
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								ገኘፑ#	PERATURI	E DATA	DEGRE	ES FAHRE	VFETT				
FRA	4E	PSA		PTC	SKIN[1]	Sĸ	In[2]		N(3)	SKIN[4]	S	IV[5] 40	DEL-STIM	S FEE	DE9-PIPE		TCH
	i	5.2	2	2.38	2.9		94.1		<del>\$5.4</del>	95.7		147.6	106.	8	522.0		111
	2	5.2	<b>.</b>	2.91	2.9		45.ê		95.4	96.2		152.2	198,	ů	524.1		_ 110
	3	5,2	3	2.91	2.9		93.2	<u> </u>	94.1	95.4		156.4	187	.5	524.1		109
	4	5.2	4	2.38	2.4		93.6		93.6	94.9		148.3	107	5	525.4		110
	5	5.2	5	2.91	2.4	<del></del>	93.6		93.6	94.9		150.4	106	.7	526.7		110
	6	5.2	5	2.91	2.9	·	91.9		92.8	94,1		152.2	106.	2	527.1	<b></b>	108
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FR	PTC	TC P	47/PTC	PORT-22	NO PSH/PS	A NO	PSH/PSA	NO	PSH/PSA	NO PSM/	SA N	) PSP/PSA	NO PSM	PSA N	O PSH/PS	A NO	PSH/
1	2.9	112,7	1.3024	5.18	5 0,8802	7 6	0.90019	11	0,93856	16 0.94	151 2	0.92601	29 0.90	5438 3	4 0,9776	6 35	6.99
2		112.7		5,12						17 0.94							
3		111.4		5.10	3 1.0246	9 8	1.04112	13	0.96217	18 0.95	626 2	5 0.92380	31 1.01	718 4	2 0.7083	4 37	1.04
4	3.4	112.3	1,1115	5,10						19 0.96							
5	3,4	111.9	1.0996	5,11	1 1.4373	5 10	0.99832	15	0,93782	20 1.01	677 2	7 8.93413	33 1,0	1529 4	0 0.7194	2 43	3,75
6	3.4	110.6	1.1027	5.11						21 1.00	127 2	8 0,93265	<u> </u>				
								· · · · · · · · · · · · · · · · · · ·									
WIND	TUNN	EL TEST	CONDI	TIONS		754				5,242	R/		HACH	1.4	54 TE	iP	98.0
AVEO	ACC M	ション・ブルロ	771 F P	ARAMETERS	ALPHA S., PTC= HEATER	3.3	02 961 1 TC=	1:	0.00 L1.9	ROLL PTC/PSA HEATE		0.62 AL TEMPE	PSH[22]	/PSA=	0.9741		
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30 -330				թլյա	E LECHADIO	GY TEST 40.	A-MOTESCE AT	FURJE			
				CWIDIA1	SKIN[2]	TEMPERATUR	E DATADE Skin(4)	GREES FAHRE! SKIN(5) MOI	NHETY DEL-STING FE	EDER-PIPE	TCH
FRAME	ΡŞĄ		PTC	5K[N[1]		130.1	123.6	155.9	200.7	883.9	304.3
1	1,2		14,49	12.9	124.0	127.9	121.8	150.0	199.9	681.3	3,5,2
2	1,2		14,49	12.9	123,1		121.4	151.3	199,9	880.9	305.2
	1.2		14.49	13,4	122.3	127.5	119.7	147,8	198.6	87ä.3	305.6
4	1.2		14,49	12.9	121.0	125.7			199.6	877.8	305.6
	1.2		14.49	14,5	120.1	125.3	119.2	152.2	197.7	875.7	306.1
5 <sub></sub> _	1.2	<u> </u>	12.91	14.5	117.9	122.7	117.9	147.8	177.47		
FR PTC	TC P	47/PTC	PORT-22	NO PSH/PSA	NO PSM/PS	A NO PSM/PSA	NO PSH/PSA	NO PSH/PSA	NO PSH/PSA	NO PSH/PS	NO PSH/PS
	4 304,8			5 9.82694	6 0.8702	6 11 0.94671	16 0.98048	23 0.94161	29 0.94671	34 0,9269	35 0.7090
	0 305.2					6 12 0,99513					
	4 305.2		1.19			0 13 0.99258					
	0 306.1			2 2.56363	3 9 <b>0.99</b> 57	7 14 0,96327	19 0.98748	3 26 D.95945	32 0.94798	39 D.1853	9 38 6.9893
	0 306.1					4 15 1.00660					
	5 306,9	·						8 28 0.97028			
	2 300,7	0,0202									
WIND TUN	NEL TEST	COND1	TIBNS	9 10.		90.019 PS	1.214	R/L 10.5	HACH 3	,480 TEM	P 107,1
MODEL AT	TITUDE.,	771 F P	ADAMETERS	ALPHA	13.9 TC	TA 0.00 2 305.7 SURE= 0.	PTC/PSA=	0.0 11.42 Total Tenper	PSM(22]/PSA	= 0,9791	
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·	ساد د د د مو		PTS	SKI'(1)	SAINE		-1EMPERÄTURE S≮IN[3]	SKIVI41	SKIN(5) MOD	EL-STING FE	EDER-PIPE	TCH
FRA~=		5A 1.21	954.90	937.8		7.6	éō.1	66.8	152.6	67.6	£3.2	68.
1			758.58	942.3		7.6	£7.2	66.8	148.3	67.6	70.2	55.
		1.21	967.53	949.6		5,9	£6,3	65.8	152.2	66.3	61.6	51.
4		1.21	972.79	954.4		7.2	6s.s	65.8	140.7	64.2	52.7	47.
5		1.21	978.58	961.2	65	5.5	66.8	66.3	150.0	62.4	44,7	
66		1.21	978.05	960.2	6	5,9	66.3	65.9	148.7	59.0	36.2	33.
									NO BOWARDA	NG DOM/DOA	NO PSM/PSA	NO PSH/F
FR PT	<u> </u>	C P47/PT	C PORT-22	NO PSM/PSA	NO P	SM/PSA	NO PSM/PSA	NU PSM/PSA	NU F577F5A	20 0 04700	34 1 02106	35 n.70s
1 950	.7 69	.4 0.819	1,27	5 0,82615	6 0	.86691	11 0,93762	16 0.96/55	23 9.94208	29 0194077	44 4 74 850	36 n 903
2 959	,6 59	.4 0.019	3 1,28	4 0.77455	7 0	.88539	12 0.99494	17 0.94271	24 0.98029	30 0.94023	41 1,31632	30 91700
3 969	.1 53	.3 0.019	2 1.29	3 1.46312	8 g	.92106	13 €.99622	18 0.97265	25 0.96310	31 0.94144	42 3,02117	3/ 3.081
4 973	.3 49	.9 0.019	2 1,29	2 2.51602	9 0	.99749	14 0.94653	19 0.95819	26 0.92806	32.0.94144	39 1.36120	38 1.001
5 980	.2 46	.3 0.019	0 1.30	1 2.55186	10 0	.96692	15 1.00450	20 0.97010	27 0,97966	33 0.90768	49 3.82117	43 1,34
6 979									28 0,96819			
		COT COND		0 10.2		PT 9	0.036 PS	1,215	R/L 18.6	MACH 3	,480 TEMP	102.9
MODEL	TYTTUÜ	}F		ALPHA	0.02		A 0.00	DEPARAL	797.66	PSM(22)/PSA	= 1.0609	
AVERAGE	PARAME	/NOZZLE	PARAMETER	S. PTC= 96	OTAL	PRESSU	RE= 1100.	HEATER T	OTAL TEMPER	ATURE 0.		
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								Tebuara (Elif	or Kirk " " në	Pocto Tipoc	WETT-LITE		
	FRA	ME	PSA		PTC	SKIN[1]	SKINIZI	SKIN[3]	SKIN(4)	SKIN[5] HO	DEL-STING FE	EDEA-bloE	TCH
		1	1.2		135.46	429.7	109.3	113.2	117.9	152.2	142.2	250.0	255.
		2	1.2		134.93	427.D	195.7	111.4	115.8	152.2	147,6	326.9	266.
		3	1.2		145.20	431.3	166.7	111.0	115.3	150.9	155,6	329.9	276.
		4	1,2		142,63	436.5	104.9	109.3	114.0	152.2	160.8	331.6	282.
		<del></del> 5	1.2		443,36	436.0	164.0	108.4	113.6	152,2	166.9	335.1	290.
			1,2		451.78	442,3	163.2	107.5	111.9	152.6	172.5	338,6	296.
		6	1,2		4316,70	1450							
	FR	PTC	Tr B	47/ETC	P08T-22	NO PSM/PSA	ND PSH/PS	SA NO PSH/PS	NO PSH/PSA	NO PSM/PSA	NO PSH/PSA	NO PSH/PSA	NO PSH/F
<u> </u>					_						29 0.95681		
		•	256.2		1.18						30 0.96000		
			266.6		1.18						31 0.95427		
			276.6		1,18						32 0.94662		
			282.7								33 0,93643		
			290.0		1,18	1 5420010	10 01770	** 10 2104.4		28 0.98102			
	6	451.8	296,5	0,0314	1,18				EI CONTER	20 9470182			
	WIND	TUNNI	EL TEST	CONDI	TIONS	0 10.2	91 PT	90.027 PS	1,214	R/L 10.4	MACH 3.	480 TEMP	109.0
	MODE	L ATT	ITUUE	771 F P	ARAMETERS	ALPHA PTC= 44	0,02 BI 10.5 TI	ETA 0.00 C= 278.1	PTC/PSAE	362.77	PSH1221/PSA=	0.9681	
	HEAT	ER PAI	RAMETÉR	s		HEATER	TOTAL PRES	SURE= 600.	HEATER '	TOTAL TEMPER	AIUKEE 400.		
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	FRA-E	PSA	PTC	<u>S*[%[1]</u>	5KI7(2)	2×1,(2)	SKIN[4]	**	CEL-STING_FE		
	1	1.21	a32.3 <u>0</u>	013.9	101.9	104.0	152.4	153.4	141.5	300.1	258.
		1.22	841.25	822.3	101.4	1.4.0	108.4	152.2	151.3	304,5	506
	3	1.21	644.41	827.6	167.1	153.6	107.5	150.9	159.1	394.8	273.
	4	1.21	864.41	847.0	98.8	105.7	106.7	150.4	166.9	305.5	278.
	5	1.21	866.51	846.5	97.5	101.4	105.8	152.2	173.8	306.5	282
	6	1.21	877,57	860.2	98.8	101.0	104.9	152,2	180.3	358.7	287.
	FR PTC	TC P47/P	TC PORT-2:			A NO PSH/PSA					
	1 833.4	256.4 0.02	11 1.22			5 11 0.94963					
	2 842.3	267.0 0.02	09 1.23			7 12 1,00377					
<u></u>	3 846.0	274.0 0.02	69 1.23			5 13 1.00568					
	4 863,4	278.7 0.02	06 1,23	2 2,50369	9 9 1.0088	6 14 0,96173	19 0.97320	26 0,93944	32 0.95027	39 1,20439	38 1.01
	5 866,0	282.2 3.02	1,23	1 2,54501	9 10 6.9789	3 15 1.01460	20 0.97829	27 8.99939	33 0.92799	40 3.82082	43 1.17
	6 877,6	287.9 0,02	04 1,24				21 0.97129	28 0.98145	3		
	HIND TUNN	IEL TEST CON	DITIONS	Q 19.		90.044 PS		R/L 10.4	HACH 3	.480 TEMP	108,8
	AMERAGE N	TTUDE HODEL/NOZZLE KRAMETERS	. DIBLACTED	S. PTC= 8	54.8 TC	TA 0.00 = 274.7 URE= 1100.	DTC/PSA=	703.73	PSH[22]/PSA IATU≅E# 330.	* 1.0122	
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FRAME	PSA	PTC	SK[N(1)	5KIN[2]	TEHPERATUR SK1* [3]	SKI4[4]		DEL-STING FEE		TCH
	1.21	1224.94	1195.6	100.5	194.6	187.5	151.3	129.6	284.)	725.
2	1.21	1235.46	1204.4	98,9	1:2.7	105.8	148.3	136.6	273.5	227.
3	1,23	1245,99	1219.7	98.8	161.4	105.3	150.0	143.9	262.3	230.
4	1.22	1247.04	1210.6	98.ņ	171.0	104.5	152,6	150.0	257.1	231.
5	1.21	1251,78	1224.4	97.1	101.0	104.0	150.0	156,1	254.5	234.
6	1.21	1252.83	1222,8	96.2	98.8	104.0	151.7	161.3	252.3	235.
FR PTC	TC P47	PTC PORT-22	NO PSM/PSA	40 PSM/PS/	L NO PSM/PSA	NO PSM/PSA	NO PSH/PSA	NO PSH/PSA	10 PSH/PSA	NO PSM/F
	225.4.0.0							29 0.94763 3		
	228.5 0.0					•		30 0.95145		
•	231,1 0,0		3 1,45262	8 0,93491	L 13 1,00551	18 0,97562	25 0,97244	31 0.94763	12 3,81534	37 0.980
	232.8 0.0		2 2.50137	9 1.00996	14 0,96035	19 0.97180	26 0.93746	32 0.95717 3	9 1.40110	38 1.019
5 1251.3	234.5 G.O	167 1,33	1 2.54081	18 0.97943	3 15 1.01378	20 0.97625	27 g.98897	33 0.91520	10 3,81534	43 1.373
6 1259.1	235.8 0.0	167 1,34				21 0.96862	28 0,97689			
		NDITIONS					R/L 10.5	MACH 3,4	180 TEMP	108.3
AVERAGE NO	DEL/HOZZL	E PARAMETERS	PTC= 124	4.7 TC	231,4	PTC/PSA= 1		P8H[22]/PSA=	1,0931	
HEALEK PAR	MARCIEKS.,		HEATER TO	WIAL PRESSU	JRE= 1000.	REATER I	UIAL IERFERI	HIVE- CDU;		<del></del>
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TEST 575 AUN 709/0

	FRAME	PSA		PTC	2KIM[1]	SKINIZI	2×1×(3)	SKIN[4]	SKINESI MO	DEL-STING FE	EDE4-PIPE	TC∺
	1	1.21	15	80.72	1547.6	61.1	81.5	81.9	150.9	105.3	267.0	226.3
	2	1,22	15	95,89	1561.0	61.9	5 <u>1.</u> 5	61.9	147,8	117.9	271.=	229.3
	3	1.21	16	04,94	1561.3	81.9	61.5	81.9	150.4	127.9	264.0	232.4
	4	1,21	15	89.67	1557.0	60.2	81.1	82.4	148.7	136.1	258.4	234.1
	5	1.21	15	35.46	1504.9	81.5	81.1	82.4	153.0	143.5	254.9	231.9
·	6	1.21	14	68.62	1442.3	81.1	80.6	82.8	152.6	150.4	252.3	231.1
	R PTC 1 1579.7	TC P47	-	PORT-22	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,					NO PSH/PSA 29 0.94526		
			-		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,							
	2 1599.7	228,9 0.	0147	4,64	4 0.76857	7 0.90067	12 1.00577	17 0.95410	8 24 0,99049	30 0.95227	41 1,53318	36 0.9178
	3 1611.8	232.8 0.	0146	4.64	3 1,45993	8 6.93571	13 1.00896	18 0.9796	6 25 0.97838	31 0.94845	42 3.82117	37 0.9834
	4 1587.0	235,4 0.	0149	4,54	2 2,52112	9 1.01405	14 0.96310	19 0.9758	3 26 0.94144	32 0.96755	39 1.55420	38 1.8428
	5 1531.3	233.7 0,	0151	4,64	1 2,55488	18 0.97966	15 1,01724	20 0.9796	5 27 0.99112	33 0.91023	40 3,82117	43 1,5077
	6 1458.1	282.4 0.	0155	4,64				21 0.9720	1 28 0.97966			
			•									
	IND TUNNI	EL TEST C	ONDIT	10NS	. 0 10.2	92 PT 9	0.036 PS	1,215	R/L 10.4	HACH 3.	480 TEMP	108.6
		ITUDE DDEL/NGZZ				0.02 BET	A 0.00 231.6	ROLL PTC/PSA= :	0.0	PS# [22] /PS#=		

		<del></del>			7.0					-QUIESCENT								
FRA	4E	PSA		PTC	SK[4(1)	SKI	151			DATADE Skivi41				STING F				TCH
	1	1.21	15	76.51	1544.9	1;	13.6	117.9	9	125-1	1	51.3		161.6		473.3		390.6
·	2	1.21	15	997.57	1546,5	11	11.9	117.	1	118.8	1	52.6		202.0		462.5		434,0
	3	1.21	16	566.39	1573.4	1.1	11.9	116,	2	119.2	1!	52.6		220.2		457.4		411.0
	4	1.21	15	552.30	1512.5	1.1	12.3	115.	3	116.8	14	47.8		236.3		454.3		407.5
	5	1.21	15	01.78	1460.2	11	L1,4	114.	ũ	119.7	15	52.6		250.1		452.6		412.7
	5	1.21	14	146.72	1397.6	1	L1.C	113.6	6	124.3	<u> </u>	51.3		262,3	. ——	450.4		406.6
	_													DCW /DCA		Deu / Dea	•••	DCM/DC
FR	PTC			-	NO PSM/PSA													
1.1	573,4	389.7 <u>0</u>	.0150	1,44						16 0.97720								
2 1	591,8	402.3 0	.0149	1.51						17 0.96255								
3 10	603.9	416.5 0	.6148	1,54						16 0.98638			_					
4 1	558,1	410,5 0	.0151	1,53	2 2,56276	9 :	1.00714	14 0.90	6518	19 0.97593	26	0.94089	35	0.96658	39	1,67028	38	1.1109
5 1	514.9	413.1 0	.0153	1,52	1 2,59525	10	97847	15 1.83	1797	23 0.98233	27	0.99249	33	<b>6.920</b> 50	46	3.82152	43	1,5371
6 1	449,1	406.6 0	.0156	1,49	<del>-</del>				:	21 0,97083	28	0,98102	· • •					
MODE	ATTI	TUDE			G 10.2	0.0;	PT 9:	A 0.		ROLL	R/L	10.4			.48		1	09.8
AVER HEAT	AGE MO	DEL/NOZ AMETERS	ZLE PA	RAHETERS	PTC= 154	OTAL		405,5 RE= 210		PTC/PSA= 1 HEATER T				[22]/PSA RE= 480.		.2407		
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••	 - PSEC TRISONIC MIND TONNEL HUNTSVILLE	. ALABA"
	DILIVE TECHNOLOGY TEST NON-GUIESCEN	T PHASE

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	FRA	ME	r5A		PI	c	5K	[N[1]	SKINE		SKIN		SKIN		SKI	S FA4RE:	JEL.	STING	FEED	P-PIFE		₹C#
		1			121		1:	196.5	112.	. 3	11	5.7	143	3,5	1	47.ĉ		176.4		497.2		375.3
		ž	1.	21	1235	5,39	1	210.7	112.	3	11	8.8	142	2.2	1	48.3		195.1		479.5		367.6
		3	1.		123	,72	13	204.4	110	. 6	11	7,1	14	3.5	1	48.7	<u>-</u>	212.0	, <u></u>	466.5		392.8
	.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	4	1.		125			227.0	111	. 4	11	6.2	139	9.2	1	48.3		227.2		465.3		409.1
	·	5	1.		125			236.7	109	. 3	11	5.3	136	8.3	1	48.3		240.2		454.d		401.4
		6			128		1;	259.1	109		11	4.5	137	7.9	1	.49.1		251.9		452.5		404.0
i i																				DS=4D2		05=/05
<u> </u>	FR	PTC	10	P47/P	TC 1	ORT-22		PSM/PSA														
	1 1	214.4	376,7	0.01	70	1.34		0.84159			-		-									
	2 1	235.5	389.7	0.01	68	1.35		0.79827														
	3 1	236.5	393.6	0.01	69	1,36	3	1.47677	8 0.	93142	13 1	.00723	18 0	,97984	25	0.97602	31	0.9511	7 42	3,8218	8 37	3,7530
	4 1	257.6	401.4	0.01	67	1.37	2	2,55280	9 1.	0066c	14 0	,96582	19 8	,97729	26	0.94205	32	0.9613	6 39	1,4168	8 38	1.0524
	5 1	263.9	431.9	0.01	67	1.37	1	2,58492	10 5,	97665	15 1	.01679	20 0	.98111	27	0,99194	33	0.9250	5 40	3,8218	e 43	1.3875
		284.9				1,38										0.98111						
	MODE	L ATT	ITUDE.				• •	0 10,29 AL?HA	0.02	BETA		0,00	ROLL	0	R/L	10.4		ACH [22]/PS	3,48		P 1	10.5
	AVER HEAT	RAGE MO	DDEL/N PAMETE	<u>OZZLE</u> RS.,.	PAR	METERS	••	PTC= 1240 Heater To	B.B DTAL P	RESSUR	394 E= 1	600.	HE	PSA= 1 ATER T	OTAL	TEMPER	ATU	RE= 470		ITCA		
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A-373

					۽ ۽	YE TECHYO	LOGY TEST	CA-SCIESCEN	PUASE				
F	 RAME	-5:		PTC	5K1*(1)	5k]14(2)		≈E DAT4Pi € SKI5(4)	SKIN[5] MC			IPE	HOT
<u> </u>	1	21	7	11.0	059.7	147.8	141.7	170.8	140.3	207.7	51	5.2	357.2
	2	1.21		7-7, 34	653.7	147.4	<u> 159.1</u>	168.2	148.3	217.5	45	5,5	371.1
	3	1.21		719,57	705.5	146.1	157.4	166.9	146.7	227.2	46	2.9	361.1
	4	1.22		731.25	716.9	144,4	155.0	163.9	152.6	236.3	47	3.4	389.7
	5	1.21	7	737.04	724.4	140.9	152.0	161.7	148.7	244.9	46	66.9	389.7
	_ 6	1.21		746.01	730.2	140.0	150.4	167.4	151.7	254.0	45	2,6	395.8
FR	PTC	7C 24	7/PTC	PORT-22	NO PSM/PS	A NO PSH/	PSA NO PSM/PS	A NO PSH/PS	A NO PSH/PSA	NO PSM/PS	SA NO PS	/PSA	NO PSH/PSA
1	701.8	357.6 0	.0234	1,21	5 0.8358	6 6 0.88	364 11 0.9600	9 16 0.9804	3 0.95244	29 0.956	90 34 0.9	6837	35 0.71863
2	710.2	370.7 a	.0232	1,21	4 6.7912	6 7 G.B9	319 12 1.0066	0 17 0.9537	2 24 0.9925	30 0.957	54 41 1.0	9579	36 ე.91814
3	720.7	38∪•6 ũ	.0230	1.21	3 1.4665	7 8 8.93	976 13 1.0110	6 18 0.9804	8 25 g.97665	31 0.954	35 42 3.	2188	37 .82168
4	728.1	390.2 ũ	.0229	1,21	2 2,5305	1 9 1.90	851 14 0.9690	1 19 0.9785	6 26 0.94416	32 0.952	44 39 1.1	4548	38 1.04737
5	736.0	395.2 3	.0227	1.21	1 2.5655	4 16 6.98	239 15 1.0167	9 20 0.9823	9 27 0.99322	33 0.936	52 40 3 <b>.</b> !	2168	43 1.11168
6	748.6	396,7 0	.0224	1,22		· <del> </del>		21 0.9772	9 28 0.98430	)			
			······································		<u>.</u>								
WIN MOT	ND TUNN	EL TEST	CONÚII	TIONS	G 10.	290 PT 0.02	98.019 PS BETA 0.00		R/L 10.4		3.480		110.4
AVE	RAGE M	ODEL /NO?	71 F P4	RAMETERS	S. PTC= 7	24.2	TC= 381.0 SSURE= 1100.	PTC/PSA* HEATER	596.43 TOTAL TEMPER	PSM(22)/PSM(22	SA= 0,990 0,	59	
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	FRA	MF	25A		PTC	SKI* [1]	SKINE		241.[3]	SKINI41	GREES FAMRE SKIN(5) MO	DEL-STING FE	EDES-SIDE	TCH
		1	1.2	:1	424.73	417.:	143	. 9	155.5	155.2	152,6	153,3	530,2	331,6
3	- · -	2	1.3		424.93	417.0_	143	.5	154.3	162.1	151.3	191.6	523.2	347.7
1		3	1.2		432.03	424,4	140	9	151.7	159.5	156.4	199.4	510.2	355.9
		4	1.2		434,93	429.1	135	.7	145.3	156.9	151.3	207.2	499.0	352.0
		5	1.2		440.72	434.4	137	.9	147.5	154.8	148.3	215.5	492.3	369.4
		6	1.	?1	448.69	446.2	135	• 7	145,2	153.9	148.3	222.4	485.1	377.6
	FR	PTC	TC F	47/PTC	PORT-22	NO PSP/PSA	NO PS	M/PSA	NO PSM/PSA	NO PSH/PSA	NO PSM/PSA	NO PSM/PSA	NO PSM/PSA	NO PSM/PS
	1_	421.8	329.5	0.0331	1.18	5 0.83681	60.	88316	11 0.96154	16 0.98321	23 0.95262	29 0.96154	34 3.93542	35 0.7257
	2	423,4	347.2	0.0330	1.18	4 0.78631	70.	89846	12 1,00806	17 0.95517	7 24 0.99213	30 0.96218	41 0.87552	36 0.9226
	3	431.8	357.6	0.6325	1.18	3 1.45155	5 8 6.	94179	13 1.01124	18 0.98257	7 25 0.97620	31 0.95708	42 3.82259	37 3,8225
	4	434.9	362.8	0.8324	1.18							32 0.94943		
				0.0320								33 6.94051		
				0,0316							8 28 0.98575			
							<u>.</u>							· · · · · · · · · · · · · · · · · · ·
	HINI	TUNN	EL TES	CONDI	TIONS	0 18.2	288 P		0.002 PS	1.214	R/L 10.4	MACH 3.	.480 TEMP	110.3
	HODI	EL ATT	ITUDE.	1771 F P	ARAMETERS	ALPHA PTC= 43 HEATER 1	0,00 33.8	BET/ TC= RESSU	357,4	PTC/PSA=	D.0 357.31 Total Temper	PSM(22)/PSA: RATURE= 490.	× 0.9709	
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							TTEMPERATU Ski'(3)	PE DATA+DE Skin(4)	GREES FAMMS SKIN(5) YD	DEL-STING FEE	DEF-P1=E	<b>∓</b> C⊬
- <del>-</del> · :	44	25A	75	<u> </u>	SKINII	5x1v(2)		175.9	150.4	243.2	778.5	502.4
	-	1.21	817	.53	806.2	156.5	165,0		146.3	263.6	733.7	516.7
	<u>Ž</u>	1.21	824	.37	611.7	155.6	166.3	175.1	147.6	281.8	7*4.9	521.9
	3	1.21	847	• 53	832.6	152.6	163.4	174.3			£81.9	530.2
	4	1.21	956	.48	836.5	151.7	161.5	171.7	146.3	298.7		532.8
	5	1.21	854	.90	837.5	150.9	159.5	172.5	147.5	313.4	664.0	···
	3	1.21	872	.79	846.5	150.0	157.8	172.1	150.9	327.3	052.4	536 . 6
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	R PTC	TC P4	PTC F	ORT-22	NO PSM/PS	A NO PSH/PS	A NO PSM/PS	A NO PSH/PS	NO PSH/PS	NO PSH/PSA 1	NO PSY/PSA	NO PSM/PS
		1 502,9 0		1.31	5 0.8332	7 6 0.8619	4 11 0,949	1 16 0.9747	0 23 0,9453	9 29 0.94157	34 0.99636	35 0.6924
		8 510.0 0		1,31	4 n.7893	1 7 0,8791	4 12 2.995	8 17 0.9575	0 24 0.9880	7 30 J.94539	41 1.19384	36 0.8918
				1.32	3 1 4856	12 6 6.9243	37 13 1.000	32 18 0.9715:	1 25 0.9696	ŋ 31 0.93966	42 3,82178	37 2.8291
		5 523.7 0			2 2 5698	ao e n. 995	18 14 D.961	6 19 0.9702	4 26 0.9403	e 32 g.94g3g	39 1.36266	38 1.0301
		5 532.8 0		1,33	2 243070	20 40 0 970	87 15 1-009	73 20 0.9734	2 27 0.9899	9 33 0.92116	40 3.8217e	43 1.2001
		9 533.6 0		1.34	1 2,0042	27 10 00770			4 28 0.9810			
	<u>6 870</u> .	2 539.3 0	.0205	1.35								
	····					202 27	90.023 P	5 1.214	R/L 10.6	MACH 3.	480 TEMP	101.5
	IODEL AT	TITUDE				045 D	ETA 0.0G	ROLL PTC/PSA=	0.0	PSM(22)/PSA= RATURE= 635.	1.0929	
	EATER F	PARAMETERS		• • • • • •	HEATER	TOTAL PRES	SURE 1100.	HEATER				
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			18E <sub>R</sub> 1					PLUMË	ISONIC N	OGY T	ESTH	HUNTS'	SCENT	PHA	SE				-3, -,-	H.	711/0
	FRA	ME	PS	<u> </u>	PT	c	SKIN[1]	)	SKINIZI		MPERATUR [N(3)	SKINI					IT				TCH
	* .	1	1	.21	1589	.63	1558.6	•	60.3		61.1	61	1.1	1	52.2		155.2		645.9		508.1
. ==		2 .	1	.21	1589	.63	1555.4	<u> </u>	62.0	<u>-</u>	61.6	62	2.4	1	47.8		192.0		629.9		522.4
	<del> </del>	3	1	.21	1602	.79	1562.3	5	62.9		62.4	64	1.6	19	52.6		223,3		621.6	<del>_</del>	534.5
		4	1.	.21	1563	.84	1524.4	<u> </u>	64.2		63.3	67	7.6	1	48.3		251.8		616.9		537.5
		5	1	.21	1521	•51	1465.4	<b>.</b>	67.2		65.0	72	2.0	1	52.2		274.8		613.8		539.3
		6	1	21	1465	.42	1438.6	<u> </u>	68,1	· · ·	65.0	, 76	.7	1!	52.6	·	295.7		608.2	<del></del>	536.2
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	FR	PTC	TC	P47/P		08T-22	NO PSM/	'PSA I	NO PSH/P	SA NO	PSH/PSA	NO PS	M/PSA	NO I	PSH/PSA	NO	PSH/PSA	NO	PSM/PSA	NO	PSH/PSA
•	1 1	588.6	508,	0.01	48	1.41	5 0.84	541	6 0.857	52 11	0.93333	16 8.	97283	23 (	94607	29	0.92823	34	1.19708	35	0.68742
	2 1	588.7	521.9	0.01	50	1.66	4 9.80	337	7 0.882	36 12	0.99959	17 0.	96073	24 (	.99322	36	0.94416	41	1.50989	36	0.89383
	3 1	606.5	534.5	9.01	49	1.70	3 1.51	754	8 9.921	<b>23</b> 13	1.00787	18 0.	98948	25 (	.97920	31	0.94352	42	3.82188	37	3.62188
	4 1	567.0	538.4	0.01	56	1.70	2 2,61	842	9 1.802	14 14	0.95754	19 8.	97793	26	.94352	32	0.95627	39	1.76536	38	1.11745
· · · · · · · ·	5 1	52g.Z	539.3	0.01	52	1.68	1 2.63	690	10 0.974	74 15	1.62061	20 0.	98557	27 1	.08022	33	0.92377	40	3,62188	43	1.62457
	6.14	159.1	536.7	0.01	56	1,58	<del> </del>				<del></del>	21 0.	97092	28 (	99067				·		
	MIND	TUNNI	EL TES	T CON	01710	NS	. 0 1	0.290		90.0	L9 PS	1.2	14	R/L	10.6	H.A	ICH 3	.480	TEMP	10	2.3
	MODEL	ATT	TTUDE.	DZZLE	PARAI	HETERS	ALPHA	1553	0.02 B	ETA C= 5	0.00	ROLL PTC/P	SA= 1	.0 279.5	50	PSH (	221/PSA	<b>=</b> 1.			
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															ULESCENT			· versere					
 FA	AHE		PSA		Ρī	C	SKI	N(1)	S	KIN	[2]		MPERATUI [N[3]		ATADE [N[4]	GRE	ES FAHRE IN(5) HO	DEL.	STING F	EEDE	R-PIPE		TCH
	1		1.2	1	527	. 90	. 5	16.5		6	5.0		65.5		65.9		152.6		67.2		169.1		93.6
 	2		1.2	1	527	.00	5	19.6		6	5.0		65.0		64.6		150.9		68,9		146.1		86.3
 	3		1.2	1	530	.69	5	20.7		. 6	5.0		65.5		65.9		153.0		70.2		170.4		85.8
	4		1.2	1	532	.26	5	23.3		6	5.5		65.0		65.0		150.4		70.7		131.4		76.3
	5		1.2	1	536	.48	5	26,5		_6	7.2		65.9		65.9		151.3		72.4		161.3		77.2
 	6	<del></del>	1.2	1	534	.90		25.4	-	6	6.3		65.5		65.5		150.4		71.5		155.6		72.8
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FR	PTC		IC P	47/PT	C F	ORT-22											PS#/PSA						
 1	525.	4 9	2.8	<b>9,6</b> 28	2	1.19											0.94276						
 2	527.	8	7.1	8.028	2	1.19											0.98161						
 3	531.	2 8	8.0	9.928	1	1,19											0.96824						
4.	531.	7 7	8,5	8,028	Đ	1.19				_							0.93256						
 5	534.	9 7	8.9	0.627	9	1.19	1	2.539	07 1	0 0	.97206	15	1.0096	<b>4</b> 29	0.97779	27	0.98543	33	0,92428	40	3.82135	43	0.95422
 6	534.	9 7	5.6	0 ; 927	9	1.19					=			21	0.97142	2 28	0.97461						<del></del> .
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 WIN	D TUN	NEL	TEST	COND	1110	NS	ç	10	.291	. 02	PT 9		31 PS 0.00		1.214 LL (	R/L	10.6	H	ACH 3	.48	) TEMP	10	3.4
AVE	RAGE	HODE	L/NO	27LF	PAR	METERS	i F	TC=	530.	9	TC=	:	83.4	PT	C/PSA=	437	'.12 L TEMPER		1221/PSA		9786		
 HEA	IER P	днап	FIEN	3	• • • •	• • • • •	••••	iev i eu		<u> </u>	PRESSU		600.		WENTEN .						<u>.</u>		
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	11 SEPTEM	SER 1973			MSFC PL	TRIS	ECHNOL	IND TO	NNEL STNO	N-QU	IESCENT	PHA	SE				'EST 575		UN 71370
	FRANE	PSA	 P	TC	SKIN(1)		IN121		PERATUR [N{3]		74DE N(4)	GREE Skj	S FAHRE N[5] MC	FRHE DDEL	TT	FEED	ER-PIPE	:	TCH
	1	1.21		Ó.16	1328.1		63.3		62.4		6i.6	1	50.9		59.8		51.2		52.5
	2	1.21	-	5,95	1333.8		63.3		63.3		61.6	1	48.3		59.4		47.7	-	48.1
. 11.41	3	1.23	·····	2,26	1340.7		63.3	-	63.3		62.4	1	50.4		58.5		42.5		45.1
****	4	1.21		2,26	1348,6		62.9	-	63.3	,	61.6	1	47.8		55.9		36.9		34.7
	5	1.21		1.74	1351.2	•	63.3		62.0		61.6	1	48.7		53.8		33.0		35.1
	6 .	1.21		2,26	1342.3		63.3		62.0		61.6	1	48.3		50.7		28.6		32.5
		•																	
1.1.1	FR PTC	IC P47	/PTC	PORT-22	NO PSH/P	SA NO	PSK/P	SA NO	PSH/PSA	NO i	PSH/PSA	NO	PSH/PS/	A NO	PSM/P	SA NO	PSH/PS	A NO	PSH/PSA
··	1 1360.2				5 0.820														
	2 1366.5			1,46								-							0.90101
	3 1372.8			1.49															3.81182
	4 1373,3			1,51	2 2.523														
	5 1382.8			1.53															1.65461
	6 1369.1			1.53				ζ,				-	0.9683						
	0 1304.1	32,5 0,		1620		··		<u></u>										•	
	WIND TUNN			ONC		717	PT	90.2	57 PS	1	.217	R/i	10.6		1ACH	3.4	30 TEM	P 1	02.5
	MODEL ATT	TUDE			ALPHA	0,	,04 B	ETA	0.00	ROL		0,0			1(22)/P	SA= 1	L.2274		
	HEATER PA	RAMETERS.	LE FAR	ANETERS	HEATER	TOT	L PRES	SURE:	1600.	H	EATER	OTAL	TEMPE			0,			
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	11 SEPTEMB	ER 1973		MSFC PLU	THISUNIC MIN	Y TESTNO	4-OUTESCENT	PHASE				
: <u></u>						-TEMPERATUR	E DATADEC	GREES FAHRE	NHEIT			-
	FRAHE	PSA	PTC	SKIN[1]	SKIN[2]	SKIN[3]	SKIN[4]	SKIN[5] MD	DEL-STING F	EEDER-PIPE	TCH	
	1	1.21	1911.74	1867.5	75.0	73.7	74.1	150.4	91.5	244,9	108.8	
•	2 .	1.21	1845.42	1805.9	73.7	73.7	73.7	150.0	93.2	147.8	75.9	<b>-</b>
	3	1.21	1645,42	1605.9	75.4	75.0	74.6	151.3	91.9	189.4	63.3	
	4	1.21	1443.32	1413.3	74.6	73.7	74.1	147.8	67.6	134.4	46.8	
-	5	1,21	1275,95	1251.7	74.6	73.3	73.3	148.7	81.9	139.6	43.4	
	6	1,21	1145.95	1127.5	74.1	72,8	72.8	150.4	75.9	88,4	36.0	
					•	•						
	FR PTC	TC P474	PTC PORT-2	22 NO PSH/PS	A NO PSH/PSA	NO PSK/PSA	NO PSH/PSA	NO PSH/PSA	NO PSM/PS/	NO PSH/PSA	NO PSM/PSA	
	1 1912.3				15 6 g.877g2							
<del></del>		78.5 0.0			7 0.89295							
······································					0 8 0.9292							
		64,6 6.0			5 9 1.00504							
		48.1 0.0			0 10 0.97328							
	· · · · · · · · · · · · · · · · · · ·	44,2 0.0		1 2,5642	0 10 0.4/328	, 15 1,VII4I						
	6 1147.5	3747 0.0	0175 1.41	<u> </u>		•	51 0.40010	28 0.97192				
		i						· · · · · · · · · · · · · · · · · · ·			407.4	
	WIND TUNKS	L TEST CO	ONDITIONS	Q 10.	.293 PT S	90.044 PS TA 0.00	ROLL 0	R/L 10.6			103.6	
	AUCDACE ME	RDEL JUN771	C DADAMETER	95 PTC# 19	348.0 TC	63,7	PTC/PSA= 1	274.45 OTAL TEMPER	PSM(221/PS			•
	HEATER PAR	METERS.		HEATER	TOTAL PRESSI	146- 5700.	nga.ica i					<b>C</b>
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4.				PLUM	E 1ECH 'OFOR,	TESTDY	-AUTESCENT	FFASE			
,				· · - · · · · · · · · · · · · · · · · ·		-TEMPERATURE	DATADEC	REES FAHREN	FEIT		<del></del> YCH
	FK4	-9-	PTg	SK1\(1)	\$818121	2K [ x [ 2 ]	5KI*[4]	SKIN[5] HEE	FL-STING F	Elenent	-
		- :.21	1196.48	117:.2	137.0	146.7	156.9	152.6	216.9	760.7	514.6
	3	1.21	1223.32	1189.1	135.7	146.5	154.3	152.2	244.9	722.2	527.6
	2		1243,32	1217.5	136.1	144.3	153.9	150.0	270.5	689.7	538.8
	3	1,21		1225.4	135.7	143.1	153.9	152.2	291.8	667.2	545.8
	4	1.21	1251.21			140.9	153.5	147.8	310.4	651.6	545.8
		1.21	1261.21	1240.2	134.8		154.3	147.8	326.9	641.2	548.
	6	1.21	1287.00	1267.0	134.4	140.0	_ 15440				
						····		<u> </u>			
				NO DEH / DEA		NO PSH/PSA	NO PSH/PSA	NO PSM/PSA	NO PSHIPSA	NO PSM/PSA	ND PSH/P
F	R PTC	TC P47,		. WO 524/124	NO F347F3A	11 0.95189	46 n_978n2	23 6.94867	29 0.94170	34 1,16279	35 0.693
	1 1197.0	514.6 0.0	0173 1.43	5 0.84039	6 0.86//9	11,0,99109	10 000,000	24 0 00458	30 0-94871	41 1.48518	36 0.895
	2 1232.3	528,4 0.	0169 1.45	4 0.79771	7 0.88499	12 1.00159	1/ 0.90145	24 0177430	74 0 04764	42 3 82223	37 3.823
	3 1244.9	538.8 0.	0168 1.46	3 1.49920	8 0.92896	13 1.00605	18 0.97738	25 8.9/6/4	31 0.74301	72 3402220	TR 1.085
*	4 1248.1	545.8 0.	0169 1.48	2 2,59191	1 9 1.00032	14 0.96464	19 8-97547	26 0,94361	32 0,9963	39 1,50005	47 4 490
		548,4 0,		1 2,6142	1 10 0.97674	15 1,01625	20 8.98120	27 0,99649	33 0,92259	40 3,82223	43 1,477
		548,8 0.					21 8.96840	28 0,98439			
	3 151910	340,0 81									
				0 10.	289 PT 1	90.011 PS	1,214	R/L 10.6	HACH	3,480 TEMP	101.6
	MARCI ATT	TTINE	ONDITIONS	ALFOA	0.02 BE		DTC/0848	0.0 1024.01 ±	; <b>P</b> \$#1221/PS.	A= 1.2096	
			LE PARAMETER		TOTAL PRESS	URE 1600.	HEATER	TOTAL: TEMPER	ATURES 640	•	
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# Appendix B PLUME TECHNOLOGY TEST SCHLIEREN PHOTOGRAPH COORDINATES



#### Appendix B

Appendix B presents a digitized listing of the observed model exhaust plume's coordinates followed by a listing of the plume's initial internal shock shape coordinates. These data were obtained by reading the schlieren photographs on 35 mm film using a Telecomputing Corp. model 29-E Telereadex film reader and are applicable to the first frame of data only.

Seven sets of data for the plume boundaries are provided and five sets of data for the plume internal shock shapes are given. Due to the flow interaction, no attempt was made to read the shock shapes for the triple nozzle pressure runs therefore there is not a corresponding set of shock coordinates for the last two sets of plume boundary data.

Each set of data consists of the identifying photograph number as specified in Table B-1, and X and R coordinate in inches for the upper half of the plumes, and the nondimensionalized plume coordinates.

Table B-1 gives the cross reference relating run number to set and photograph number. Figure B-1 shows typical values of the coordinates read superimposed on the schlieren photographs.



Table B-1
SCHLIEREN PHOTOGRAPH LISTING

Run	Set	Photo	Run	Set	Photo
102	0	4	220	0	13
103		6	221		15
104		4 6 7	222		16
105		9 22	223		18
107		22	224	. ▼	20
108	Ψ	23	308	4	56
109	1	7	309	1	58
110		8	310	] ]	60
111		4	311	. ▼	62
112		14	312	3	13
113		15	315	1	11
114		17	319		27
115		18	320	♥	25
119		25	336	4	82
120	$\mathbf{l}$	23	337	1	84
124	▼	20	340		90
125	2.	3	341		88
129		3 1	343	<b>i</b> •	86
130		13	356	3	23
131		21	359	1	21
132		9	360		15
134	<b>Y</b>	9 11	363		19
155	1	29	364		9
159		32	367	₩	19 9 7
160		33	370	4	76
164	<b>† ∀</b>	27	376		74
165	2	5	377	\ \ \ \ \	72
169	4	5 7	379	3	72 3 5
200		47	380	1	5
204	i	43	381		1
205	Ī	41	382		29
209	₩	39	383		31
210	2	37	384		33
211	1	34	385	▼	36
212		38	401	5	17
213		27	402		22
214		25	403		24
218	<b>▼</b>	43	404	i <b>♦</b>	26
<del>-</del>		]	<u> </u>	<b>*</b>	ĺ

Table B-1 (Concluded)

Run	Set	Photo	Run	Set	Photo
405	5	28	547	6	56
406	1	30	554	6 6 5	54
408	İ	50	611	5	10
409		48	627	1	2
410	1	46	628		4
411		44	629		6
438		54	630		8
440		62	631		15
441	1	60	701	ŀ	98
442		58	702		83
443		56	703		81
444	i	42	704		79
447		40	705		78
448		36	706		85
451		34	707		87
452	}	32	708		89
455	i	38	709	-	92
468	j,	68	710		106
469		70	711	İ	102
470		72	712		96
471		74	713		100
475	₩	52	714		94
501	6	9	715	<b>\</b>	
502		9 7	113		104
503		i			
504		3			
505		5			
506		11			
507		13			
508		23			
509		15			
511		17			
512	<u> </u>	20			
513	ľ	25			1
514	<b>,</b>	28			
515	ļ	36			
522		38			
523		48			
524		46			
525		44			
526	·	42		1	
527	ļ	40			
528		34			
	ļ				
537	ļ: '	30			
538	₩	32 53			
546	v	52			

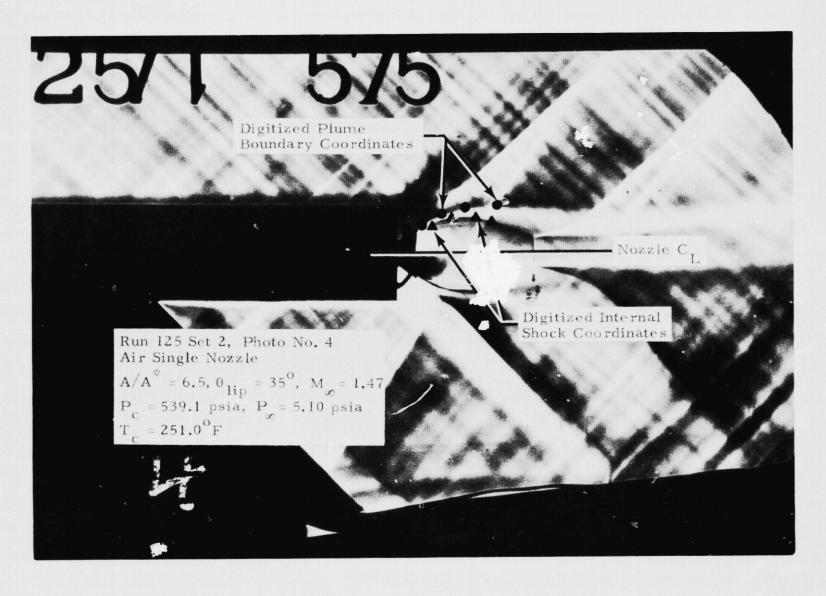


Fig. B-1 - Plume Boundary and Internal Shock Coordinates Superimposed on the Schlieren Photograph

### VISCOUS PLUME ROUNDARY COOPDINATES. SET A

MO. (INCHES) (INCHES)  4			and the second of	i i	
4       0.000       11.35.7       0.700       1.6         4       0.192       0.546       0.550       1.6         4       0.290       0.603       0.830       1.160         4       0.406       0.693       1.160       1.30         4       0.522       0.773       1.492       2.6         4       0.640       0.862       1.830       2.6         4       0.763       0.935       2.180       2.6         4       0.877       1.015       2.505       2.6         4       0.877       1.015       2.505       2.6         4       0.877       1.015       2.505       2.6         4       0.877       1.015       2.505       2.6         4       0.877       1.015       2.505       2.6         4       0.877       1.015       3.232       3.3         4       1.131       1.172       3.232       3.3         4       1.271       1.254       3.632       3.3         4       1.414       1.306       4.040       3.4         4       1.725       1.421       4.727       4.4         4 <th>TO</th> <th><b>X</b></th> <th>R</th> <th>Y/PEYIT</th> <th>RIBEXIT</th>	TO	<b>X</b>	R	Y/PEYIT	RIBEXIT
4       0.192       0.546       0.550       1.6         4       0.290       0.603       1.160       1.1         4       0.406       0.693       1.160       1.1         4       0.522       0.773       1.492       2.6         4       0.640       0.862       1.830       2.6         4       0.763       0.935       2.180       2.6         4       0.877       1.015       2.505       2.6         4       0.877       1.088       2.852       3.6         4       1.131       1.172       3.232       3.6         4       1.271       1.254       3.632       3.6         4       1.271       1.254       3.632       3.6         4       1.571       1.254       3.632       3.6         4       1.571       1.254       3.632       3.6         4       1.725       1.421       4.727       4.6         4       1.725       1.421       4.727       4.6         4       2.031       1.513       5.802       4.6         4       2.174       1.540       6.572       4.6         4		(INCHES)	(INCHES)	·	
4       0.192       0.546       0.550       1.6         4       0.290       0.605       0.830       1.160         4       0.406       0.693       1.160       1.5         4       0.522       0.773       1.492       2.5         4       0.640       0.862       1.830       2.6         4       0.763       0.935       2.180       2.6         4       0.877       1.015       2.505       2.6         4       0.877       1.015       2.505       2.6         4       0.877       1.015       2.505       2.6         4       0.877       1.088       2.852       3.6         4       1.31       1.172       3.232       3.6         4       1.271       1.254       3.632       3.6         4       1.414       1.306       4.040       3.6         4       1.725       1.421       4.727       4.6         4       1.848       1.464       5.280       4.6         4       2.174       1.540       6.212       4.6         4       2.300       1.576       6.877       4.6         4		m _ t+0101	u.352	0.000	1.000
4       0.406       0.693       1.160       1.60         4       0.406       0.693       1.160       1.60         4       0.522       0.773       1.492       2.60         4       0.640       0.862       1.830       2.60         4       0.763       0.935       2.180       2.60         4       0.877       1.015       2.505       2.60         4       0.877       1.015       2.505       2.60         4       0.877       1.015       2.505       2.60         4       0.871       1.088       2.852       3.632				0.550	1.560
4       0.406       0.693       1.167       1.492       2.64         4       0.522       0.779       1.492       2.64         4       0.640       0.862       1.830       2.64         4       0.763       0.935       2.180       2.652         4       0.877       1.015       2.505       2.652         4       0.998       1.089       2.852       3.232       3.232         4       1.131       1.172       3.232       4.232       4.242				a.83a	1.722
4       0.522       0.773       1.492       2.4         4       0.640       0.862       1.830       2.4         4       0.763       0.935       2.180       2.6         4       0.877       1.015       2.505       2.6         4       0.998       1.088       2.852       3.6         4       1.131       1.172       3.232       3.6         4       1.271       1.254       3.632       3.6         4       1.414       1.306       4.040       3.6         4       1.571       1.376       4.487       3.6         4       1.725       1.421       4.727       4.6         4       1.848       1.464       5.280       4.6         4       2.031       1.513       5.802       4.6         4       2.174       1.540       6.572       4.6         4       2.300       1.576       6.572       4.6         4       2.407       1.600       6.877       4.6         4       2.586       1.635       7.627       4.6         4       2.818       1.689       8.282       4.6         4					1.980
4       0.640       0.862       1.830       2.4         4       0.763       0.935       2.180       2.6         4       0.877       1.015       2.505       2.6         4       0.998       1.088       2.852       3.2         4       1.131       1.172       3.232       3.3         4       1.271       1.254       3.632       3.3         4       1.414       1.306       4.040       3.3         4       1.571       1.376       4.487       3.4         4       1.725       1.421       4.927       4.4         4       1.848       1.464       5.280       4.4         4       2.031       1.513       5.802       4.4         4       2.174       1.544       6.572       4.4         4       2.300       1.576       6.572       4.4         4       2.407       1.602       6.877       4.4         4       2.586       1.635       7.390       4.7         4       2.818       1.680       8.282       4.4         4       2.899       1.689       8.282       4.4         4				1.492	2.222
4       0.763       0.935       2.180       2.605         4       0.877       1.015       2.505       2.         4       0.998       1.088       2.852       3.         4       1.31       1.172       3.232       3.         4       1.271       1.254       3.632       3.         4       1.414       1.306       4.040       3.         4       1.571       1.376       4.487       3.         4       1.725       1.421       4.727       4.         4       1.848       1.464       5.280       4.         4       2.031       1.513       5.802       4.         4       2.174       1.542       6.212       4.         4       2.300       1.576       6.572       4.         4       2.300       1.576       6.572       4.         4       2.586       1.635       7.390       4.         4       2.586       1.645       7.627       4.         4       2.818       1.680       8.282       4.         4       2.899       1.689       8.282       4.         4       2.992 </td <td></td> <td></td> <td></td> <td></td> <td>2.462</td>					2.462
4       0.877       1.015       2.505       2.         4       0.998       1.088       2.852       3.         4       1.131       1.172       3.232       3.         4       1.271       1.254       3.632       3.         4       1.414       1.306       4.040       3.         4       1.571       1.376       4.487       3.         4       1.725       1.421       4.727       4.         4       1.848       1.464       5.280       4.         4       2.031       1.513       5.802       4.         4       2.174       1.540       6.212       4.         4       2.300       1.576       6.572       4.         4       2.407       1.602       6.877       4.         4       2.586       1.635       7.390       4.         4       2.670       1.645       7.627       4.         4       2.818       1.680       8.282       4.         4       2.899       1.689       8.282       4.         4       2.992       1.683       8.547       4.					2,672
4 1.131 1.172 3.232 3.4 4 1.271 1.254 3.632 3.4 4 1.414 1.306 4.040 3.4 4 1.725 1.421 4.727 4.4 4 1.848 1.464 5.280 4.4 4 2.031 1.513 5.802 4.4 4 2.174 1.540 6.212 4.4 4 2.300 1.576 6.572 4.4 4 2.407 1.602 6.877 4.4 4 2.586 1.635 7.390 4.4 4 2.670 1.665 7.627 4.4 4 2.818 1.680 8.052 4.4 4 2.899 1.689 8.282 4.4 4 2.992 1.683 8.547 4.4					2.900
4 1.131 1.172 3.232 3.44 1.271 1.254 3.632 3.434 1.414 1.306 4.040 3.4487 3.4487 3.4487 4.725 1.421 4.727 4.4487 4.727 4.4488 1.464 5.280 4.487 4.2174 1.513 5.802 4.487 4.2174 1.540 6.212 4.487 4.2174 1.540 6.212 4.487 4.2174 1.540 6.212 4.487 4.2174 1.540 6.212 4.487 4.2174 1.576 6.572 4.487 4.2187 1.600 6.877 4.487 4.21886 1.635 7.390 4.21818 1.680 8.262 4.262 4.2628 1.262					3.197
4 1.271 1.254 3.632 3.444 1.414 1.306 4.040 3.4571 1.376 4.487 3.444 1.725 1.421 4.727 4.4487 4.1848 1.464 5.280 4.487 4.2174 1.513 5.802 4.421 4.2174 1.540 6.212 4.421 4.2174 1.576 6.572 4.421 4.2174 1.576 6.572 4.421 4.2174 1.600 6.877 4.421 4.2174 1.600 6.877 4.421 4.21818 1.600 6.877 4.421 4.21818 1.600 8.877 4.421 4.21818 1.600 8.877 4.421 4.21818 1.600 8.252 4.421 4.21818 1.680 8.282 4.21818 1.680 8.282 4.21818 1.680 8.282 4.21818 1.680 8.282 4.21818 4.21818 1.680 8.282 4.21818 4.21818 1.680 8.282 4.21818 4.21818 1.680 8.282 4.21818 4.21818 1.680 8.282 4.21818 4.21818 1.680 8.282 4.21818 4.21818 1.680 8.282 4.21818 4.21818 1.680 8.282 4.21818 4.21818 1.680 8.282 4.21818 4.21818 1.680 8.282 4.21818 4.21818 1.680 8.282 4.21818 4.21818 1.680 8.282 4.2821 4.28218 4.2821					3.350
4 1.414 1.306 4.040 3.4487 3.457 4.487 3.457 4.487 3.457 4.571 4.575 1.421 4.727 4.464 5.280 4.464 5.280 4.464 5.280 4.464 5.280 4.464 5.280 4.6657 4	l,		1.1/3		3.582
4 1.571 1.376 4.487 3.4 1.725 1.421 4.927 4.4 1.848 1.464 5.28\(\alpha\) 4 2.031 1.513 5.8\(\alpha\) 2 174 1.54\(\alpha\) 6.212 4.4 2.3\(\alpha\) 7.576 6.572 4.4 2.4\(\alpha\) 7.6\(\alpha\) 7.627 4.4 2.586 1.635 7.39\(\alpha\) 4 2.67\(\alpha\) 1.6\(\alpha\) 7.627 4.4 2.81\(\alpha\) 1.68\(\alpha\) 8.2\(\alpha\) 2.899 1.6\(\alpha\) 8.2\(\alpha\) 2.992 1.6\(\alpha\) 8.547 4.					3.732
4 1.725 1.421 4.727 4. 4 1.848 1.464 5.280 4. 4 2.031 1.513 5.802 4. 4 2.174 1.540 6.212 4. 4 2.300 1.576 6.572 4. 4 2.407 1.602 6.877 4. 4 2.586 1.635 7.390 4. 7.627 4. 2.670 1.645 7.627 4. 4 2.818 1.680 8.052 4. 4 2.899 1.689 8.282 4. 4 2.992 1.683 8.547 4.	,				3.932
4     1.848     1.464     5.280     4.       4     2.031     1.513     5.802     4.       4     2.174     1.540     6.212     4.       4     2.300     1.576     6.572     4.       4     2.407     1.602     6.877     4.       4     2.586     1.635     7.390     4.       4     2.670     1.645     7.627     4.       4     2.818     1.680     8.052     4.       4     2.899     1.689     8.282     4.       4     2.992     1.683     8.547     4.	}			4 627	4.050
4 2.031 1.513 5.802 4. 4 2.174 1.540 6.212 4. 4 2.300 1.576 6.572 4. 4 2.407 1.600 6.877 4. 4 2.586 1.635 7.390 4. 4 2.670 1.645 7.627 4. 4 2.818 1.680 8.052 4. 4 2.899 1.689 8.282 4. 4 2.992 1.683 8.547 4.	}				4.182
4 2.174 1.542 6.212 4. 4 2.300 1.576 6.572 4. 4 2.407 1.602 6.877 4. 4 2.586 1.635 7.390 4. 2.670 1.645 7.627 4. 4 2.818 1.680 8.052 4. 4 2.899 1.689 8.282 4. 4 2.992 1.683 8.547 4.	L	***			4.322
4     2.300     1.576     6.572     4.       4     2.407     1.602     6.877     4.       4     2.586     1.635     7.390     4.       4     2.670     1.645     7.627     4.       4     2.818     1.680     8.052     4.       4     2.899     1.689     8.282     4.       4     2.992     1.683     8.547     4.	}				4,400
4     2.407     1.602     6.877     4.       4     2.586     1.635     7.390     4.       4     2.670     1.645     7.627     4.       4     2.818     1.680     8.052     4.       4     2.899     1.689     8.282     4.       4     2.992     1.683     8.547     4.	ł				4.502
4 2.586 1.635 7.390 4. 4 2.670 1.645 7.627 4. 4 2.818 1.680 8.052 4. 4 2.899 1.689 8.282 4. 4 2.992 1.683 8.547 4.	}				4.572
4 2.670 1.645 7.627 4. 4 2.818 1.680 8.052 4. 4 2.899 1.689 8.282 4. 4 2.992 1.683 8.547 4.	<b>}</b> .				4.672
4 2.818 1.680 P.052 4. 4 2.899 1.689 8.282 4. 4 2.992 1.683 8.547 4.	\$				4.700
4 2.899 1.689 8.282 4. 4 2.992 1.683 8.547 4.	<u>1</u>				4.800
4 2.992 1.683 8.547 4.	4				
	4 .				4,825
4 7 7 9 4 681 8 850 4	4	2.992			4.810
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VISCOUS PLUME ROUNDARY COORDINATES. SET &

PHOTO	¥	R	X/REYIT	R/RFXIT
NO.	(INCHES)	(INCHES)		
6	ଉ , ଉପ୍ର	Ø.@Ø@	a.aga	ଉ.ଖଉଉ
6	୯.୧୭୭	Ø.349	9.000	0.996
6	0.082	M.444	0.233	1,269
6	W.152	M.513	0.436	1.467
6	4.237	a.587	0.676	1.678
6	0.300	0.644	Ø.856	1.841
6	M.377	0.718	1.078	2.052
6	9.45A	Ø.789	1.287	2.254
6	0.541	ส.852	1.545	2.434
6	Ø . 651	M.927	1.861	2.650
6	0.72B	1.001	2.051	2.859
6	0.84A	1.080	2.401	3.085
6	0.959	1.160	2.741	3,314
6	1.083	1.230	3.094	3.514
6	1.194	1.307	3.412	3.734
6	1.335	1.377	3,814	3.934
6	1.472	1.453	4.206	4.150
6	1.670	1.540	4.772	4,471
6	1.826	1.587	5.217	4.535
6	1.986	1.634	5.675	4.668
6	2.129	1.690	6,082	4.828
6 6	2.284	1.744	6.526	4.970
6	2.371	1.780	6.775	5.086
6	2.476	1.824	7.075	5.210
6	2.586	1.958	7.389	5.308
6	2. Pg7	1.900	P.220	5,428
6	2.980	1.967	8.514	5.619
6	3.10A	1.996	8.880	5.704
6	3.220	2.026	9.200	5.788

VISCOUS PLUME ROUNDARY COORDINATES. SET 4

PHOTO	(Inches)	R (INCHES)	Y/PEVIT		R/REXIT
7	0.000	0.000	9.000		0.000
7	0.000	7 X55	0.000	. The first part	1.714
7	0.080	0.473	0.220		1.351
ż	a.130	m.534	0.371		1.525
7	9.182	0.602	W.520		1.720
7	7.234	7,681	9.669	I SALITURE	1.945
7	M.296	7.762	14.847	e i garanta	2.176
7	0.344	7.A28	0,983		2.365
7	0.446	M . 897	1.162	er view en en en en en en	2.563
7	0.475	r 968	1.356		2.765
7	a,555	1.055	1,585	ra ell and arti	3.014
7	0.611	1.13"	1.745		3.228
<b>. 7</b>	e.696	1.213	1.967		3.465
7	0.771	1.289	2.203		3,683
7	0.876	1.382	2.503	ing meu <sup>f</sup> ingu i	3.948
7	9.972	1.472	2,776		4.206
	1.088	1.565	3.110	AM SEE	4.472
7	1.205	1.680	3.443	· · · · · · · · · · · · · · · · · · ·	4.799
7	1.364	1.777	3,897	and the street	5.777
7	1.519	1.882	4,339		5.377
7	1.650	1.973	4.741		5.637
7	1.819	2.074	5.197		5.926
7	1.965	2,161	5.615		6.175
7	2.122	2.248	6.864		6.424
7	2.248	2.337	6.424		6.677
7	2.398	2.402	6.851		6.862
7	2.559	2.465	7.311		7.242
7	2.696	2.530	7.702		7.229
7	2.914	2.586	8.340		7.389
	2.944	2.436	8.411	en de la companya de la companya de la companya de la companya de la companya de la companya de la companya de La companya de la companya de la companya de la companya de la companya de la companya de la companya de la co	7.531

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VISCOUS PLUME BOUNDARY COOPDINATES. SET W.

PHOTO	y	R	YZFEYIT	R/RFXIT
MO.	(INCHES)	(INCHES)		
9	0.000	ு அதன்	୧.ଜ୍ୟନ	0.000
9	<b>். அம்</b>	<b>6.36</b> €	. ២ មេប្រធ	1.329
9	0.100	r.542	7,285	1.549
9	0.157	". 434	V. 420	1.812
9	0.245	2.713	0,585	2.036
9	0.234	0.768	0.460	2.194
9	0.281	∥.839 .	2.802	2.398
9	0.326	W. OUR	12.031	2,594
9	0.375	P.082	1.071	2.810
9	8.443	1.649	1.267	2.996
9	0.518	1.123	1.487	3.291
9	0.561	1.187	1.403	3,372
9	7,427	1.250	1.792	3.597
9	9.703	1.354	2.007	3.857
9	P.783	1,432	2.236	4.092
9	0.86A	1.526	2.474	4.323
9	9.962	1.598	2.747	4.566
9	1,959	1.702	3.025	4.864
. 9	1.153	1.786	3.294	5.194
9	1.236	1.267	3.532	5.335
9	1.314	1.945	3.754	5,557
9	1.390	2.716	3.970	5.759
9	1.467	2.491	4.192	5.975
9	1.569	2.157	4.484	6.142
9	1.652	2.22ª	4.721	6.566
9	1.741	2.307	4.975	6.591
9	1.839	2.386	5.255	6.818
9	1.94A	2.45°	5,566	7.224
9	2.046	2.534	5.846	7.247
9	2,154	2,590	K.155	7.424
9	2.252	2.458	4.433	7,593
9	2.363	2.720	6.751	7.771
9	2.481	2.795	7.089	7.985
9	2.564	2.844	7.331	8.125
••				

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### VISCOUS PLUME EQUINDADY COOPDINATES. SET M

PHOTO	•	P	X/PEVIT	R/RFXIT
\'n.	(INCHES)	(INCHES)		
12	ল, কল্লেল	e.apa	". ตนค	ଉ . ଜନ୍ମ
12	7.000	1,335	ল , দিয়াল	0.958
12	2,112	7,415	₽ <b>.32</b> ₽	1,185
12	4.299	3.486	2.596	1.389
12	m . 299	9.549	a.854	1.569
12	2.386	7.589	1.103	1.683
12	1.464	M . 640	1.325	1.829
12	4.566	4.702	1.616	2.005
12	Ø.669	₹.766	1.912	2.187
12	0.759	0.81 <sup>8</sup>	2.167	2.336
12	M. 837	d.876	2.392	2.503
12	0.911	0.933	2.663	2.665
12	1.008	₹,964	2.881	2.754
12	1 - 157	(A . Q P	3.305	2.852
12	1.332	1.044	3,806	2,994
12	1.497	1 . 791	4.257	3.116
12	1.664	1.120	4.755	3.199
12	1,817	1,151	5,193	3,288
12	1.982	1.173	5,662	3,352
12	2.140	1.20%	A.115	3,428
12	2.262	1.216	6.464	3,474
12	2 430	1.231	6,044	3,517
1.2	2.601	1.235	7.431	3.530

MISCOUS PLIME ROUNDARY COOPDINATES, SET &

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		(IviChEs)	CINCHEST		A/AFXII
	3 3 3	4.000	3,35,36	r. aor	1,400
	13	0.184	0.564	* 525	1,612
	13	2.291	4,645	a, 832	1.842
	13. 4 %	2.42A	.743	1.222	2.122
	13	P. 675	9.834 9.976	1.575	2.382
official discussions of the	orea 🛊 🕉 de militario	9.834	1.723	1,927 2,382	2.922
	13	2,963	1.114	2.752	3.182
	13	1.193	1.197	3.122	3.420
	13	1.234	1,253	3,525	3.580
	13	1.364	1.320	7,897	3.772
	1 3 3 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1.499	1.333	4.287	3.95 <u>2</u>
	13	1.789	1.522	4.692	4.152
	13	1.962	1.58	5.412 · · · · · · · · · · · · · · · · · · ·	4.515
	13	2.145	4 4.625	**************************************	4.642
	13	2,380	1.641	6.R25	4.802
	13	2.437	1,744	7,535	., 11 - 11 <b>4.</b> 987
	1.5	2.767	1.799	7. ০ জুন	5.137
	F. <b>3</b>	2.595	1.846	A 272	<u>5.275</u>

事件的主要的 "我们的,我们们就是这个大大大大的,我们们就不断就是这个人是他们的话,这个人的,我们就是这个人的。"

事情情况,到我是最高的,只要是这个人的,就是一个人,我们就是一个人的,但是一个人,我们就是一个女子,我们看到这是一样的,我

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🖁 ipadistrija vara sila sila sama mendajaka i monika mendena ita gripa kilama karama mendena iki mendena indi mendena jara peringan karama mendena jara peringan karama mendena jara pe

PENTO	¥	Ð	YAPPAIT	RIREXIT	No.
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	or No.		- 1 [7] . 1.12 <b>4. 600</b> 0 . 1111.	en de la composition della composition della composition della composition della composition della composition della composition della composition della composition della composition della composition della composition della composition della composition della composition della composition della composition della composition della composition della com	
15				1.000	
15	7,182	5.582	0,520	1.62	1
	7,272	. 654	7,777	1.870	
15	367	7.738	1.75	2.1/47	
15	n. 15p	606	19. 19. <b>14. 23</b> 5. 11. 44. 1.	2.312	· i
15	6,511	1,896	1.46"	2.560	
15 15 15 15 15 15 15 15 15 15 15 15 15 1	2,593	1,966	1.695	2,769	
	0.670	1.725	1,015	2.934	
15	9.747	1.109	1 m = 2.135 1 1	3.179	
15.	7.829	1.168	3. 3	3.337	
15	4.895	1.224	2.557	3.502	· · · · · · · · · · · · · · · · · · ·
15	0.970	1.287	2.797	3.680	1. 1.1
15	1 - 255	1.320	3.442	3.797	5 3
15	1.151	1.395	3.797	3,985	1
15	1.249	1.447	3.57	4.137	
15	1 . 344	1.516	3.840	4.332	1. 1.
14. <b>15.</b> 11. 11. 11.	1,427	1,567	4,077	4.477	- 1
1.5	1.527	1.624	4.25	,	
15	1 . 624	1 - 664	4.64	4.755	i
15	1,764	1,739	5 <b> 23</b>	4.967	
15	1.282	1.5%	5.377	5.147	
15	2.202	1.857	5.72c	5.305	
15	2.119	1.014	A, 055	5.480	
m. 1 <b>5</b> 0 pro 110 p	2,274	1.979	6.497	5.685 Juli	1 - 3
15	5.450	2.021	6,04e	5.775	
4. <b>5</b> . gradina	2.570	2,492	342 cm - 7, 342 cm	5.977	100
15	2.493	2.143	7.695	6.122	· ·
. ja <b>15</b> ja 15 ja 14.	2.224	2,2M	H. 167	6.285	
15	2,944	2,234	F.412	6.397	1 1
g. <b>15</b> . ggg. 19. g	3.399	2.272		44.2 Sept. 19.6 442	nd.
15	3.283	2.7 <u>1</u> 7	9 . 3H9	6.619	
an <b>i 5</b> panjalah	3.457	2.33	U.R77	6.657	ţ

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aro o postalo de como rigión el módique las esperantes en la familia encoloció Motale sabella en etería meter

要是这个可能是这个人的,我是这些人的对于是不是这是一种的特殊的特殊。但是是可能是不是这种的,可以可以更加的更加的。这是这个人,也是不是这样的。

## VISCOUS PLUME HOUNDARY COOPDINATES. SET "

		•		
PHOTO	<b>y</b>	<b></b>	Y/REYIT	RIREXIT
wn.	(INCHES)	(TNOHES)		
	A 24A		a ann	u.ara
16	0.20m	ា <b>ភព</b> ្ធ		
16	7 200		1.700	1.040
16	7,789	0.491	9.256	1.403
16	4,184	0.612	F.527	1.749 m. 1.249 m.
16	0,282	n.734	0.405	2.096
1.6	0.385	n.A39	- 1.100 - 1.100 - 1.100 - 1.100 - 1.100 - 1.100 - 1.100 - 1.100 - 1.100 - 1.100 - 1.100 - 1.100 - 1.100 - 1.100	2.398
16	M. 4BR	a.030	1.794	2.659
	· / / / / / / / / / / / / / / / / / / /	1.016.00		,, , . , . , . , <b>29/83</b> , , . ,,, . ,
16	0.709	1,113	2.723	3.1 <sup>P</sup> 1
16	9,817	1.201	2.334	3,432
16	7,920	1.297	2.454	3.685
16	1.027	4.369	2.934	
16	1.14A	1.456	3.279	4.159
16	1,267	1,551	3.419	4,432
16	1.384	1.624	3.054	4.639
1.16	1,526	1.705	4.750	4.87a
16	1.471	1 .803	4.775	5.153
16	1.827	1.882	5.210	5 . 3.7.7 ·
16	1.957	1.941	5.573	5.546
1.6	2.09	2.424	5,973	5.784
16	2.249	2.127	4.426	5,999
	2.486	2,215	7.104	17 (17 (18) <b>6 (328</b> (1) 18 (19) (19)
			7.807	6.584
16	2.732	2.304		
16.44	2.924	2.384	A, 369	6.818
16	3.29/	2,445	8,820	6.486
16	3.231	2.453	9.232	7.293
16	7,384	2,530	9.674	7.255
16	3,544	2.592	10.252	HIND TO 11.7% 40.4% HONE THE STREET

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### THE THE PROPERTY OF THE PROPERTY COOPDINATES, SET OF THE PROPERTY OF THE PROPE

	PHOTO	(INCHES)	(INCHES)	x - x/PEXIT	ng p <b>roprint</b> ga
	1 13	ស. <b>ស. ៤គ្</b> ា (១) ស. <b>៤គ្</b> ា	a aya	9.000	9.009
daga katiyi kurasi	1. 1. <b>1.</b> 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1.	m uga	367	en en en en en en en en en en en en en e	1.029
	* H	0.100	7.544	0.285	1.440
	16	4.224	W.644	0 A4M	1.841
and the second second	18	0.337	9.768	0.962	2.194
	18	n, 455	4.878	1.300	2.510
	18	".545 ".638	7,059	1,556	2.741 3.014
	18	9.750	1,748	2,143	3.279
Cambalan in April 1995	18	n.857	1.238	2.447	3.537
	18	7.941	1.319	2.487	3.768
	18	1,/33	1.435	7.952	4.014
	18.	1,120	1.484	3.201	4,239
ti di Mali di Mali di Mali di Mali di Mali di Mali di Mali di Mali di Mali di Mali di Mali di Mali di Mali di M	4 8 7 7 7	1,221	1.55%	3.48A	1 4 4 4 2 A
ing di kacamatan di Kabupatèn Bandaran Kabupatèn Bandaran Kabupatèn Bandaran Kabupatèn Bandaran Kabupatèn Band Kabupatèn Bandaran Bandaran Bandaran Bandaran Bandaran Bandaran Bandaran Bandaran Bandaran Bandaran Bandaran B	18	1.326	1.424	3,790	4,646
	an <b>FR</b> a milita	1,423	1.695	4,064	4.844
	1.8	1.510	1.761	4,339	5.030
	18	1.62A	1.827	4.656	5.219 5.444
	. 18 18	1.734	1,905	5.21	5.599
	••	1.008	2.007	5.450	5.735
	1 b	1,090	2.053	5,711	5.466
e de la compansión de l	<b>4.8</b>	2,094	2.122	5.984	6.762
	18	2,191	2.164	4.260	6.182
er er ver uteller ge	1.8	2,286	2.229	6.531	6.348
tronte dutor de la compaña distribuir. La compaña	18	2,393	2.277	A.P.SR	6.506
real bankan ter	and 🔩 😘	2,482	2,319	7,086	6.626
	18	2.585	2.362	7,384	6.749
	18	2.702	2,499	2.72°	6.88 <i>a</i> 7.051
en en en en en en en en en en en en en e		2,510 2,917	2,46 <sup>R</sup>	7 • 46 ° . 	7.071 7.193
	<u>- 18</u>	3.079	2.561	6.79A	7.318
By tanja utjejvnig jiyan kulua u ili u		**************************************	/- 701 /- /- <b>/ 8 / 439</b>		7.540
	18	7.294	2,671	9.418	7.629
	TUT BEAT TO LEV	3,405	2,734	9,729	04 T 00 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7
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<sup>1</sup> 문항문 하시는 이 시험 수 있는 것이 되었다는 이 나는 사람들은 사람들이 있다면 이 이 하는 사고를 하는 것 같다. 하는 것 같다는 수 수 있었다. 본

🗜 kan da life kilanga arak menggulas sagara balang kan kan kan liber binan kilang kilang kan bang baran kan ka

Landyn Baltyng film oned for an oppolesje from kjoresten nijt og signifikation og ble og elektring mæter ejelig

Bara da bila aparta e iraka bababa babababara na da anagunkan e kalabara eta aka babababa kenala bermila bermi

VISCOUS PLHME POUNDARY COOPDINATES. SET MANAGEMENT OF THE PROPERTY OF THE PROP

PHOTO.	(InChes)	R (TNEHES)	y/PEYIT.	RZREXIT	in mercure appropriate to the control of the contro
					<del> </del>
20	2.290	त <b>, वाह</b> त	4 . C. A. C.	0.000	
22	a nga	4,363	ት ያለፈ ነው ያለው ነው። እስከ ነው ነው ነው ነው ነው ነው ነው ነው ነው ነው ነው ነው ነው	1.036	
22	# <b>,</b> 088	9.554	P.251	1.583	- California
22	n. 170	M. 668	P.487	1.894	
23	7,267	<b>4.779</b>	0.742	2.225	
20	7,371	и я7н	1.060	2,510	机设置 医电影
26	4,464	0.989	1.325	2.799	
20	9.572	1.077	1.634	3.776	
26	M,465	1.170	1.901	3,343	
20	0.761	1.26	2,174	3,599	1
26	7,450	1.348	2,454	3,852	
20	7.042	1,425	2.497	4.070	a francis (
24	1.856	1.527	3.714	4,363	
20	1.166	1.417	3,332	4,613	
26	1.237	1.48"	3,534	4.801	
20	* , <b>43</b> 0	1,757	7,790	5. MAB	and Warrang
20	1.443	1.845	4.123	5,273	e e e e e e e e e e e e e e e e e e e
20	1,564	1.923	4,46F	5.495	······································
20	1.462	1.997	4.74R	5.706	
26	1.772	2.07H	5.764	5.937	
20	1,863	2,154	5.324	6.153	. Teknologija k
20	1.479	2.21"	1 1 1 1 1 1 K , K55 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	6.313	- 1 1 2 x 2 x
120	2.104	2.281	4.011	6.517	
20	2.216	2,35R	** *** ****	6.737	
20	2.31A	2.427	1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1	6.935	
20	2.430	2.486	F.044	7.174	11.
20	2,560	2,557		7,304	early to 161 org
24	7,683	2.414	7.464	7,473	
24	2.802	2.667	and the state of the MAS and the second	7.620	agartan d
24	2.917	2.721	F.33A	7.773	
2¢	3,530	2.769		7.911	January I
26	3,140	7.A3A	F.071	8,109	
29	3,220	2,879	3 1 2 3 1 3 1 2 2 7 1 3 1 5 1 5 1 5 1 5 1 5 1 5 1 5 1 5 1 5	8.225	eren filt gifte i 🛊
24	7,777	2.924	G. 505	A.367	

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### VISCOUS PLHME POUNDARY COOPDINATES. SET @ --

	PHOTO	<b>y</b>	p A A su mission h	ANDEALL	R/RFXIT
	• 0 •	(INCHES)	(TNCHES)		
	28	a. "Aa	0.003	4.000	Ø . እምØ
	22	a . c p a	a 361	o cha	1,231
	22	a 05a	<b>7.47</b> 5	P.142	1.358
	25	m e 94	n 563	0.269	1.609
	25	4,145	3,648	0.413	1.452
garan Baharan Ing	<b>ာ</b> ဦ	a 209	n.729	P.596	2.981
	25	0.303	0.822	0.865	2.347
	2 <b>2</b>	0.362	4 P95	1.034	2.556
	22	P.43A	0.083	1.247	2.812
	25	m.535	1.496	1,529	3.132
	22	n, 411	1.297	1.745	3.450
	22	7.716	1,291	2.045	3.697
	22	0.807	1.360	2.305	3.886
	22	7.970	1.465	2.572	4,186
	22	1.705	1.572	2.872	4.497
Elektrick (1940)	22	1.121	1.665	3.203	4,757
	22	1.230	1.793	3.514	
	72	1.342	1.884	3,834	5.382
and a second of	22	1,452	1.964	4,148	5,610
englikanga salah dan dalam dalam Territoria	22	1,575	2.445	4.501	5.842
enigari (12 g. d. et al.)	22	1.705	2,150	4.273	6,144
	25	1.431	2.234	5,230	6.384
	22	1,074	2,343	5.646	6,695
	>2	2.095	2.486	5.086	6,873
ngreg Landson	22	2,207	2.476	6.396	7.073
	25	2.335	2.552	6.671	7.291
in says of eye	22.	2,474	2,642	7,069	1949 - 1944 - <b>7.549</b> - 1964 - 1966
and the second of the second	22	2,619	2.744	7,48%	7,851
	1964 N. 22 (1974)	2.751	2.R37	7.864	

ORIGINAL PAGE 18
OF POOR QUALITY

是是是这一些的"美国",这一是一点,只是一点都是多数的。"我们是这些,我们就是这样,我们就是这个的,我们也不是这些,我们是这个人,我们是这个人,我们就是这么多 "我们是我们是我们是我们是我们是我们的,我们就是我们的,我们就是我们的,我们就是我们的,我们就是我们的,我们就是我们的,我们就是我们的,我们就是我们的,我们就是

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### VICCOUR PLUME ROUNDARY COMPRINATES. SET 9

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	. 3	P. 9 AP	#.35a	10.000	1.000	
	23	n,284	4 58A	W. A12	1.647	
	23	0.386	0.644	1.102	1.847	1
	23	0.474	4.7A4	1,355	2.40a 2.174	
	23	r.592	n.759	1.692	2.390	
	23	0.732	# #36 # #99	2.475	2,570	( )
	23	1.01A	0.069	2.017	2.770	
	23 23	1.167	1.028	3.335 3.735	2.937 3,130	
ing di salah yang bilan	23	1.471	1.154	4.202	3.297 3.417	
	23 23	1.654	1.194	5,252	3,552	en ander de de de de de de de de de de de de de
	23 23	2.739	1.278 1.288	5.825 6.315	3.652 3.680	er an er er er er er er. Erkelter ekster i vil 188
	23	2.391	1.291	6.832 7.505	3.687 3.720	erte europa (n. 1835). Transport
	23	2.427 2.848	1.302	A.137	3.720	
	23	3,056	1.309	P.732	3.740 3.660	
	23 23	3,317	1.281	10.047	3.590	
	23	3,782	1.242	10.805	3,547	

en fortule of Geen fortule of og språge omrovelige og fråger Bodernegelog olig frågetille gæmpregådg folksågen och

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VISCOUS PLIME BOUNDARY COOPSINATES.

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1.75基基金基件 A 1.5		# . r.g.e		ማርያ የመደረ ነው። ማስመር የመደረ ነው። ማስመር የመደረ ነው።	1.165	
er en en en en en en en en en en en en en		7.197 7.774 7.154	6.469 25.23.517 7.611	7.44°	1.477	
		0.269	0.671 0.730	2.600 2.767	2.785	
	4 - 4 - 4 - 4 - 4 - 4 - 4 - 4 - 4 - 4 -	0,332	7.849	1,182	2,227 2,425	
	4	0.530 0.576	д.015 и.одя	1.427 1.645 1.830	2.615 2.822 2.975	
		0.740 0.720 1.794	1.741	2.957 2.967	3.175 3.322	
		1.007	1.300	2.437 2.877	3.455 3.740 3.855	
		1,767	1.340 1.42 1.453	3.750 3.750 3.572	4, 75 4, 152	e valela diva bilejako
		1.380	1.552 1.605	7,967	91 - 91 - 91 - 92 - 93 - 94 - 435 	tt et er selve er seur et de. De er er alla er er alla er
		1.562	1.655	4,F15 4,750	4. AR2	rita da la la la la la la la la la la la la la
		1.742	1.74P 1.804 1.85K	4,477 5,490 5,440		
		2.123	1.967 1.045	5.810 6.065	5.45g	
	gir Karaska,	2,194	1.007	6.267	* 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1.	

도요요~~~ 다 다음과 이 다음 등 다음은 다 이 이 나는 사람이 보는 아니다. 전 다른 아니는 다음이 아니다. 이 사가 다는 이 그와 넘는 이 나는 이 한다. 보고 이 한다는 사람이 다른 사람들이 나를 다 하는데 다른 사람들이 되었다. 그는 이 이번에 되었다. 나를 다 하는데 다른 사람들이 되었다. 그는 이 이번에 되었다.

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VISCOUR PLUME ROUNDARY COOPDINATES. SET 1

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Districtes)	CINCHES			**************************************
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7 1,195	a. 14 (1-41-470) lab (1914) 4.508	4.246.4.200/1970.1	1.342	11年 11年 11年 11年 11年 11年 11年 11年 11年 11年
7 0.15a	4.595	0.430 0.555 6.555	1.580 1.700	
7 0.341	4.626	4.867	1.700	
7 0.451 7 ".511	784 6.936	1.287	2.24g 2.472	
7 0.591 7 0.651	9.098	1.86?	2.4 <sup>8</sup> 2 2.505	
7 7 7 7 7,786	и 952 и 005	2.745	2.720	
7.864 2.862	1.037 1.481	2.47	2.962 3.700	
n (**) <b>7</b> (**) (*) (*) (*) (*) (*) <b>1.43</b> 	1.159	(1867)	3,192 3,312 3,392	
7 1.182 7 1.326 7 1.417	1.187 1.257 1.255	3,377 3,787 4,657	3.592 3.700	
7	1.335	4.317 7.537	3.815 3.935	
7 1.682 7 1.774	1.421	4.900	4.760 4.137	
7 7 7 1,964	491		4.267	an er Verlefard []

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	рилтр ' <b>п.</b>	(1.CHE2)	(INCHES)		R/RFXIT
	8	7,790	<b>″.35</b> €	4.00¢	1.470
	선		M 411	**************************************	1.175
	8	n.053	0.478	M . 157	1.365
		.112	543	e 32	1,627
	ij	0.175	0.625	7.5WP	1.785
	9	7,390	0.824	18 (17 ) 1 • <b>1.4</b> (18 ) 1	2.35
	<b>d</b>	0.445	p. 271	1.28%	2.487
	8	.507	n,014	1.45%	2.612
en de la companya de la companya de la companya de la companya de la companya de la companya de la companya de La companya de la companya de la companya de la companya de la companya de la companya de la companya de la co	8	# 556	a.967	1.590	2.945
	<b>8</b> •	0 695	1.017	1.965	3.727
	77 124	0.686 0.745	1.090	2.117	
	- <del></del>	~.*4¶ ~.*96	1.143	ው <b>ጀ</b> ወቅ	3.265
	8	6 857	1.175	) 10% (19 <b>. 45</b> %) (1) (1	3,357
•	А	4. 424	1.232	2.452	3.520
	A	1.04	1.284	2.87	3.679
	Ą	1.771	1.337	3.060	3.422
	8	1.147	1.391	50 - 12 - 13 <b>3 - 277</b> - 24 - 11	3.975
en de la companya de la companya de la companya de la companya de la companya de la companya de la companya de	. 8	1.228	1.451	3.547	4.145
	a	4.330	1.542	3.77	4.292
	P	1.432	1.552	4.092	4.435
	8	1,547	4,697	4.41	4,725
	, <b>,</b>	1.455	1,654	4,727	4.907
	. H	1.737	1.718	5,21°	5.112
	, <u>n</u>	1.527	1.789	5,847	5.4P7
		= '	2.017	6.16.5 cm	5.762
	1 1.1 <b>전</b> 일 - 1 4 1 보	2.156	2 m11	4.467	5.745
	p p	2.355	2.054	6.732	5.270
To provide the second of the con-	Ä	2,479	7.102	7.080	6.705
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anti alikula ini ini tata ang mangalang kalangan ang anatan alak ang <sup>1</sup>ang banan ang alika awata ba<mark>i</mark>

된 보면 전 LEC 호텔 하는데 전 2005 이 12 등이 보는 데 보는 보는데 1100 등은 2015도 중 2015도 12 등을 하하는 수도 그로 보는데 이번 하는 모든 모든 모를

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	PHOTO	<b>y</b>	· F	VACCALL	P/RFXIT	( )
	5 5 <b>0</b> 6 7 7 7 7	(INCHES)	(INCHES)			
	14	n. abi	0.350	6.622	1.000	· · · · · · · · · · · · · · · · · · ·
•	14	1,135	0.500	0.100	1,427	*
	1.4	0.074	0.531	7.26°	1.517	
	1.4	ଜ୍ୟୁ ଅନୁଦ	4.572	M.282	1.635	
	14	0.137	P. AMP.	0.392	1.737	
	14	4.19P	0.655	".56 <sup>K</sup>	1.902	
	<b>14</b> - 17	7,234	4.700	· . 47"	2.409	
	14	1,263	1.733	<b>7.75</b> 2	2. 95	1. 3. 5. 12. 1
	14.	2.326	∌.7¢1	0.43p	2.260	
A Landau Carrier Landau	12	0.47A	0.P43	1,080	2.417	الأروس فالمحارض
	14	0.519	* 066 • 069	** ***********************************	2,50)	
	14	581	1.018	1.482 	2.747 2.91M	
	1.4	0.665	1.070	1.000	3. KB2	
	14	757	1.156	2.152	3.502	5 1 5 5 4 4
	14	7,834	1,211	2,398	3.46%	
	14	0.951	1,274	2.660	3,649	
ing the state of the same of t	. A 14 .	1.736	1.346	2.960	3.617	. Tak to a const
	14	1,124	1,476	3,212	4.17	
eug salem in hús agas heitigi.	1.4	1.190	1.47	3.41.7	4,200	A CAT CALLS
	14	1.738	1.520	3,537	4.467	
garan egenye gere	14	1,373	1.611	3,622	4.622	<u> </u>
	14	1,194	1.474	4.276	4.197	
医可含物质 电电路通	14	1.500	1.73°	4.567	4.978	
	14	1.709	4 . 400	4.882	5.176	· · · · · · · · · · · · · · · · · · ·
	14	1. <sup>8</sup> 29	1.993		5.410	
		1.933	1.977	5.522	5.647	
	14 N	2.10/4	2.746	<b>≶•</b> @@@	5.845	
	4.4	2,234	2.121	A.890	6.169	3
		2.367 2.513	2,177	1, 267, 267, 218, 200	6.220	
and the second of the second o	17	2.53.5 	9,936 	7.44.	6.39 W	
	14	2.801	2.387	ን <sub>የ</sub> ለ ነጋ	6.627	
		/ • በዚህ ታ :	2.467	か。1732年 1737年 - 1748年 - 1750年	6.420	The state of the state of the state of the state of the state of the state of the state of the state of the sta
e gest get protosego i transcribi.	44	7.57	2,534	F.722	7.547 7.230	
	, 4		# <b>\$</b> 77 <b>3</b> 77	2000	1.000	

ใหม่เสียในของสมบัน อดาเล่วมในสามัยสาทางในเหมือนในเป็นสมบัน คระวายสินใน 155 การแบบความสำนักสินในสามาย เล่า เ

**医皮肤 电影响 电电影性 网络萨德斯特人名 电影响应性 医内膜性 医眼神经 医眼中毒 人名西西斯克斯斯克 医多数的复数形式 经收益的 化二甲基甲基甲基甲基甲基** 

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	n.	(INCHES)	CINCHESI		
	1.5	o o o o o o o o o o o o o o o o o o o	3,359	ታ <b>. የም</b> ግ	1.000
	15	* .00	412	0.030	1.177
	15	4,130	15,512	2.112	1,462
	15	n i AA	<b>588</b>	252	1.689
ing Malagra, Kebegiji (1	15	9 137	3. A37	V . 392	1.829
·	1.5	9.169	0.677	0.485	1.935
	15	2.214	4.715	V. F12	2.742
	15	2,048	757	· • 71 ·	2.162
	15	0.305	" RAA	C., R75	2.310
and the second	15	0.343	n 859	0.98#	2.455
	15	2.381	x . 8 9 9	1.090	2.57%
anger die Germanie der Germanie.	15	2.440	0.044	1.257	2.710
	15	7,497	· 特别特别生	1.400	2.863
jana ne jeraka ne jerina.	15 👓 .	55a	<b>1.099</b> €	1,572	3.710
	15	0.610	1.175	1.742	3.157
AARA OTA AARA OTA S	15	A.ABO	1.155	1.070	3.300
	15	.757	1,211	2.162	3.440
	8 <b>3.15</b>	7.F#4	1.263	2.297	3.610
	15		1.310	2.482	3.77%
	<b></b>	0.230	1 354	2,682	3.867 4.210
	15	7.086	1 4 4 5	2.617 2.99	4,167
	15	1.046	4.450	3.21	4,332
•	15	1.123	1.515		4.472
		1.194	1.564	3.412	4.552
	15	1.270	1.597	3.616	4.667
	15	4.333	1.431	4.78V	4,790
	15	1.460	1.676	4 . 7 WV	4,915
		1,471	1.727 1.771	1.027	5. 160
	15 15	1,54 <sup>8</sup>	₹ <b>6 € ₹ ₹</b> 2 <b>1 - \$1.2</b> 5\$ * 555 * 5		5.207
	15	1.794	4 PA	4,57	5,372
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e y nymette te ye en ny ne eyy ni têtîn e t T	, a	1.992	2.024	4.692	5.792
ertunggi, meletik kija.	19 15	2.780	2.446	6.067	5.967. S
tti erika kulon esti elikulore. Tarihir erika	15	2,167	2.136	1.192	6.172
gight a salah dan dan salah dari	<b></b>	2.285	regr <b>es de</b> la granda	5.1 ( m 1. 6) 53 m; ( ) ( )	6.239
'	15	2,383	2,227	A . A A 7	6.462
		2.480	2 264	7.117	
	4 5	2.404	9.7.7	7.447	6. 5 RM
	7 7 7 <b>5</b> 7 1 1 1	2.722	2.345	7,777	gg green on the <b>7 to</b> green
	+5	2.774	2.38A	7.932	617

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STRUCTUR PLINE POUNDARY COORDINATES, SET 1

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	17	·# . 756	1,350	g . 9 g g	1.000	
	17	9 190	a.431	0.00F	1.232	
	17	a,231	4.508 · ·	2.590	1.452	
	17	4.055	7.577	Ø.157	1.650	
	17	9.791	M.613	9.267	1.752	
	17	7.115	Ø . 458	V.330	1.489	1
i serii merii e	17	0.15m	.711	7.43	2.932	
	17	7.174	7.749	₽ <b>.497</b> 	2.140	
	17	a 203	#.792 #.834		2.372	
	17	0.237 3.269	4 860	r.77n	2.482	
	17	0.298	0.011	. F 852	2.692	1
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aga jangan pada at 1984 ng	17	0.384	1,090	1.097	2.855	an ing panggan dan dan dan dan dan dan dan dan dan d
	17	6.437	1.054	1.25	3.812	
	17	4.489	90 1.4 1.2 P	1,397	3.165	
and the second second	17	77.539	1.15%	1,540	3.310	· · · · · · · · · · · · · · · · · · ·
	1. <b>17.</b> 1. 1. 1	9.575	1.213	1.642	3.465	
	17	7.423	1.757	1.78	3.592 3.592	
	17	0.46A	1.792	2.017	3.792	
and a state of the	17	7.734	1.361	2.797	3.802	
	17	0.77°	1,191	2.23:	3.984	
	17	9.417	1.423	2.72	4.245	
and the second of the second	17	0.84#	1.447	2.40"	4.135	
	37	P. 67	465	2.477	4.1 45	eri a se in
	17	3 , 290	1.494	2.567	4.278	
	17	9,934	1.529	2.667	4,374	
	17	1.719	1.607	2.012	4.577	
	13 Tay 21 <b>7</b> 1 1 1 1 1 1	1.767	4.639	3.027	4,482	
	17	1.191	1.673	3.145 9 <b></b>	4.780	
	4.7	1.198	1.757	3.422	5. 20	
	17	1.264	786	<b>ジェイスと</b> 1987年 - 17月 <b>3 - 18月</b> 2日 - 17月1日 - 17	5.172	
	17	1.311	1.516	3,745	5.190	
	17	1.347	1,847	7, 11:10. <b>3.85</b> # (appendix	5.277	
	17	1.389	1.880	3,767	5.347	1
	17	1.438	1.022	4.127	5,402	
	17	1.492	1.060	4,262	5.625	
	17	- F43	2.013	4.41	5.752	Viduality (A.
rich die en die dem	17	1,595	2.04R	4,560	5.452	at the garage and const
	11. 11 <b>*2</b> 5. 476.	1.654	2 4 2 4	4.715	5, GA2.	
	17 17	1.714	2.131 2.174	4,897 5,127	6.097 6.212	ing for the ter
	17	1.647	2.221	5.977	6.345	
	1.7	1.918	2.265	490	6.472	
	17	1 494	2.713	5.497	6.619	
	17	2, 171	2 35k	5,017	6.737	
	17	2.142	2.432	A.137	6.762	ing a second control of the second control o
			yer og engaliste i fleste i 1949. Till			

## "ISCOUS PLUME POUNDARY COORDINATES, SET 1

	P1-010	(Inches)	CINCHES	X/REVIT	R/REYIT
$\frac{\partial}{\partial x} g_{\mu\nu} (x,y) = \frac{\partial}{\partial x} \left( \frac{\partial}{\partial x} (x,y) - \frac{\partial}{\partial y} \frac{\partial}{\partial y} (x,y) \right)$	18	e	*.35°	o ayo	1.400
	18 18	1.440	4, <b>3,3</b>	O. UDO	1.122
	1.8	3.150	u,423	0.170	1,210
	1 Ž	7.111 7.160	4.451 4.472	0.457	1.290
	18	e,213	487		1.350 1.392
	18	0,276	0 5.14	0,787	1.440
	1.5	n,35g	4.517	1.000	1.477
. •	7₽ 18	0.416	4,533	1.190	1.522
	1 <b>1 1 1 1</b>	0.486 0.664	7,549 7,559	1.390	1.570
	18	n . 734	<b>************************************</b>	1.79/ 	1.597 1.612
	18	0.210	0.573	2.340	1.637
	18	Ø,888		2,537	1.660
	18	n,965	7.591	2.757	1.687
	15	1,232	0.602 0.599	2.05	1.720
	18	1.195	. A . 545.	3.197 3.415	1.712 1.730
	18	1.293	0.614	3,495	1.755
	18	1.375	0.616	3.930	1.760
	7.0	1.452	M.616	4,147	1.760

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可知道,一只是心脏的话,这一一只要是这些说话,因为这些好人,是这种女人也是是对这种女人的主义的。不是不是一个不管的人会。

o militare como o porto, o texto o portegio de tradegio en el protetre de trade de trade en aperio de sistemi

,我**是**要是一点的,这种一种的。这一点种的意思,这是是一种,可以是一点的最后,这种是是一种的人,也是一点的。这是一点的,这种一种的一种不是事

的民间的主义,这个大学,也不是国家的人的对象不够,是这个美国的主义的,这种的特殊,可以是国家的人,这是一种人的主义的,这个

ta (Barka), tang kantalah kang manggalah sebagai nanggalah tanggalah tanggalah tanggalah tanggalah tanggalah 🛊

보면<mark>를</mark> 하는데, 그는 사람들에게 한글 한번 연극자의 고기가 되어 때마다는 그를 만든 것을 하는데 하는데 되어 때문 모양을 다가면 되었다면 하는데 되었다. 목도 한 전문를

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our than the site of the second teaching the following the first and the same as the second of the site of the

。这样是好到了一个,这是感觉是这个时间,是是这样的时间的重要的支撑的正面,这是是一种的重要的一点,是是是这些最高,重要的现在是<del>这</del>有效的,是是

이 일본들은 그리는 한 시간에게 발표하는 그 그녀는 물병에 하나온데요되다. 하는 문제에 되어 되지만 그를 받아보고 있는데 되었습니다.

o 🚧 premiero esta e la civera internéherra de cesa dorir en la civera de incluir internário de la catale ini

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	РИОТО NO.	(INCHES)	R (INCHES)	XVEEXIT	R/RFXIT	
a, S. C. Bay, C. C. Bay, C. C.	20.	a, ogn	. 6. <b>356</b>	e.00e	1.000	
	24	ក , ភគ្គភ	a.394	e . ១១៤	1,125	
	24		9.429	<b>4.0.4.17</b>	1.225	ing the same of the
	20	0.079	61.45R	v .225	1.310	- "
	20		a.485	C.337	1.385	San San San San San San San San San San
	ŹU	13,184	0.514	V.525	1,467	
	20	n.250		n.74m	1.525	100
	26	a.322	₩.564	0.92a	1.612	
and grand of Admi	= 2 p = 1.	. n. 378	<b>体。583</b>	1.080	1,665	omanja kaja k
	20	n.447	a.597	1.277	1.705	1
	20	a 514	0.613	1.467	1.752	
	20	0,581	C. 62H	1.667	1.795	
	20	A 464	P.647	1,897	1.847	s de destable
•	20	n.742	0.668	2.120	1.910	
	20	H H BO	× 683	2.285	1,952	
	20	2.882	0.702	2.52	2.205	
	26	7,950	7.774	2.740	2.012	
	20	1.053	<b>7.712</b>	3.71	2.035	:
	20	1.13 <sup>8</sup>	7.718	3.252	2.952	
	2 છે	1,235	g.724	3.530	2.267	

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	.P(01)	(THEHES)	(TNCHES)	X/REVIT	R/RFXIT	, with the
	73	a * 1,121s	6.350	e.ane	1.000	
	2.3	3.354	1.469	R,155	1,337	
	23 23	4.174	и.518 0.561	0.324 0.497	1.672	
	73 23	4.23A	6,649 4,654		1.740	
gradigi (fra merikan filoni) menghili sebesari permenan K	23	₽. <b>384</b>	4.702	1,097	2.005	
	23 23	0.476 4.577	9.745 9.764	1.360	2.138 2.249	The transfer of
	73	18 79 7	P. 836		2,387	
	- 23 [193	n . P22	4.882 4.92A	2.347	2.52¢	
	23 23	1.40	0.076	2,997 3,590	2.700 2.890	
	23	1.354	1.022	3.867	5.958	
	23 23	1,474	1,063	4,212 4,557	2.995 3.037	
	23	1.735	4.078	4.057 V	3.286	
	23 23	1.867	1.102	<b>5,315</b> Januaro (15 <b>,620</b> ) e gast	3.158 3.295	
	23	2,689	1.141	5,970	3.268	ing seed to be the

불러 나는 지난 바람이 되어 가는 눈을 가는 것이 되는 것이 되는데 그는 그들은 사람이 되는 수 있다. 그는 모양을 모양하는 것 같아. 그 것

囊 아무 하는데 가는데, 그 내내 아무 가는데, 그는데, 그는데 가는데 하다 그 그는 것 같다는 모든데, 것 나는 것 같은데, 다른데 다른데 모든데

囊교는 CD 한성은 CHA (은 Magazina) 이 보고 이 이 문 이 12 분야 (12 분야 일본 2 분야 한 전 12 12 분야 한 한 분야 하는 12 분야 하는 12 분야 한 분야 없는 그 약

है। जेरा का राज्य दार का नहीं, व अवकार हिंदा का सकता अधार का लिए एक दा वालिय है। विकास का कार का कार का किया क

**출**하고는 있는 일 일이 보면도 1960년 후 인원관에도 1960년 전 1912년 <sup>6</sup> 라는 한 수 등 보면만 1922년 수 등 보는 2012년 1912년 1912년 후 전 전 제공회사 전

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### VISCOUS PLUME POUNDARY COORDINATES. SET 1

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	P4070	Y (INCHES)	R (INCHES)	Y/REXIT	R/RFXIT	
	V <b>U</b> •		in the second second			
takan di kabupatèn di	25	W. C. Man	9.35	<b>የ</b> . ለፀን	1.099	
	25	M. WHA	M.4UR	0.700	1.165 1.320	· ·
	25 25	ก.048 ก.119	0.462 0.515	0.137 0.340	1.472	
	9 <del>5</del>	W.203	P.570	*************************************	1.630	
	25	2.269	0.512	9.767	1.747	
	2 <b>5</b>	Ø,384	Ø.659	1.097	1.882	
	25	0.481	0.700	1.375	2.000	
	2 <b>5</b>	M.566	0.743	1.617	2.122	
	25	9.671	0.782	9 - 1 <b>. 917</b>	2.235 2.380	in v paš
	25 25	0.776 0.492	0.933 0.978	2.217 2.55%	2.510	
	? <b>5</b>	1.083	n 910	2.865	2.600	
	25	1.130	9.937	3.227	2.677	
	25	1.239	Ø.971 .	3.540	2.775	
	25	1,340	A,097	3,837	2.850	
	25	1.442	1.//29	4.127	2.940	
		1 - 1 - 543	1.064	4.41/	3.040 3.145	
and state and the second	25 25	1.64A	1.101	4.99n	3.240	

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[대한 - 교통 ] 보기 발전 호텔전 이번, 등 전 18 등 전 보인 전 19 등 전 19 대학 전 19 대학 전 19 등 전 19 등 전 19 등 전 19 등 전 19 등 전 19 등 전 19 등

。这个人,我们还是这个人,我们的人,我们的人们是我的一种的人,我们就能够完成的。""我们,我们就是这个人,我们的人,我们也是这个人,我们就会会不是一个。""我们

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**활**는 사회하는 일반 하는 하는 말을 하면 눈을 모습이 되어 있다. 그 회의회에서 가면 함께 하는 경우를 하는 것이 하는 것이 하는 사람이 하는 것을 하는 것 같다. 그렇게 하는 것 같다.

🖥 한국 역 대통합이 기본 함께 전기 속하는 장마인 등이 하다가 한 한 한 대학생생으로 등을 보고 하고 있다. 그런 목이 본 등을 보고 하다는 전 병에 가장 속 반양했다. 다른 이 전 대학생

PHOTO	<b>Y</b>	R	X/REYIT	R/RFYIT
.0.	(INCHES)	CINCHES		
27	# . 790	0.350	0.200	1.000
27	ମା,ଜନ୍ନ	a.394	ଗ.୯୫୧	1,125
27	a. 085	M.458	0,242	
27	r.231	0.515	P.667	1.488
<b>?7</b>	A. 358	9.559	1.022	n seed to mad <b>1,5<u>97</u> he</b> for helpin
27	a. 469	g.587	1.340	1.677
27	7.584	0.596	1.667	
27	0.497	a.409	1.992	1.745
27	0.826	0.616	2.360	766 (1986)
27	n,96A	0.629	2.765	1,772
27	1.085	0.431	3,180	
27	1.466	P.631	4.587	1.862
27	1.557	0.633	4,447	. 466 . Was <b>1, 8,7</b> 4 kilis, je si
27	1.642	9,649	4,692	1.855
27	1,769	R.673	5,055	. A. A.D. ( . 1.922 ( E. ( E ) . (
27	1,598	A.683	5.422	1,952
27	2.010	A . 492	5,742	SE - 211 - 111 - 121 1977 2014 - 111 - 11
27	2.124	M.706	6,867	2.017
27	2.386	Ø.722	6.590	2.962

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em Koronia (1966), Alika a Maria	29	0,000	B.358	0.000	1.000	
	29	a. n87	7.434	Ø.247	1.249	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
	29	7.212	M.481	v. 645	1.375	
	29		0.522	0.952 1.285	1.492 1.587	
en eta era eta eta bilitzaria de la Vita	2 <del>9</del>	m,45m m,578	a.556	1.652	1.675	
	29 29	a.489	и.581	1.967	1.669	
	29	4.P22	0.589	2.347	1.682	100
•	29	9.935	0.581	2.672	1.660	
	29	1.051	7.583	3.002	1.665	
ng ngangan sa sa sa sa sa sa sa sa sa sa sa sa sa	2 <b>9</b>	1.17A 1.32A	л.590 2.589∷∷	3.365 3.795	1.682	
	29	1.484	и.589	4.240	1.682	
ja Orașa, Ligina (Ca	ှင့်	1.647	n.587	4.705	1.677	. Tatalah 125 kan
	29	1.702	a.577	4.862	1,647	
	29	3 + 951	7,585	5,575	1.672	
Kangapatan kanalasan kangatan	29	2.153	9.582	6.152 6.672	1.662	
Lorente in perconer de la rela	29 29	2.335 2.557	9.597 9.618	7.305	1.765	
		2.769	0.631	7.912	1.802	
	29	2.987	1.627	8.535	1.792	
	29	3,672	7.42A	10.492	1.795	
	29	3.914	d.639	11.182	1.825	and the second
	29	4,133	P.648	11.817	1,852	

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### VISCOUS PLUME ROUNDARY COORDINATES, SET 1

C	PUOTO	<b>Y</b>	R	X/REXIT	R/RFXIT	
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	42	0.400	@.35A	P.08P	1.770	
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	35	A. 763	a.454	0.189 0.352	1.297 1.435	
	32 32	0.123 0.196	0.549	0.560	1.567	
and the second of the second of the		n.28n	ø.596	0.800	1.702	
	32	0.382	a.636	1.092	1.617	
militari ya Maraka a Maraka Maraka Maraka Maraka Maraka Maraka Maraka Maraka Maraka Maraka Maraka Maraka Marak Maraka Maraka Maraka Maraka Maraka Maraka Maraka Maraka Maraka Maraka Maraka Maraka Maraka Maraka Maraka Marak	32	n.494	и.675	1.412	1.927	
	32	Ø . A31	9.711	1.202	2.032 2.145	
	- 35	0.77P	0.751 0.760	2,222 2.637	2.230	1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -
en en en en en en en en en en en en en e	32 32	9.923 1.058	м. / 11	3.722	2.317	
	. "		m • 832	3.427	2.377	
Albertar Greeker	32	1:395	a. 854	3.837	2.427	. The state of the
	32	1.485	a.858	4.242	2.452	
	₹2	1.557	n.874	4.450	2.497 2.507	表:(1) (A)
	32	1.670	6.878	4.772 5.112	2,547	
	35	1,788	#.892 #.996	5.432	2.590	
	32 32	1.901	0.909	5,927	2.597	
	32	2.228	9.926	6,342	2.645	

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기업 현실 기업이 있다는 사람이 있다는 기계를 가고 있다. 소리를 보고 보기 되지 않는 기업을 가고 있는 <del>일 하는 사람들이 되는 기업을 하는 기업을 하는 사람이 하는 기업을 하는 기업을 하는 기업을 하는</del>

# VISCOUS PLUME ROUNDARY COORDINATES. SET 1

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	PERTO	and Section 1		Y/REYIT	R/RFXIT	
	* O .	(INCHES)	(TNCHES)			
	13	7,400	4.35	P.850	1.090	
	33	7. 190	388	0.000	1.107	ing the second section of the section of the
	33	7.666	0.445	G.187	1.272	
	33	9,143	m,515	9.410	1,472	
	33	m.727	0.588	0.647	1.688	
	33	7,319	0.A4R		1.852 2.242	
	33	M.436	7.715 2.767	1.245 1.645	2.192	
	33	0,576 0,718	Ø.813	2.427	2.322	
	33 33	N./IM   ASR.,N	7.869	P. 17 15 2.399 111	2.482	u Project All \$1
	33	0.066	9.913	2.760	2.619	
	33	33 31 <b>.116</b> 3	r.967	3.197	2.762	turan ibi İq
	73	1.794	1.000	3.697	2.882	
	33	1.480	1.451	4.727	3.002	
	33	1.651	1.781	4,717 5,237	3.090 3.172	gangayan 🔒
	**3 **3	1.433 1.984	1.144	5.670	3.270	
	``3 73	2,130	1.166	6,112	3,332	
	13	2.294	1.191	6.56P	3.402	. 1
	*3	2.46P	1.215	7.452	3.472	
rangan pangangan salah salah salah salah salah salah salah salah salah salah salah salah salah salah salah sal Salah salah salah salah salah salah salah salah salah salah salah salah salah salah salah salah salah salah sa	73	2,663	1.242	7.610	3,556	. gradina sa
	13	2.452	1.233	-0 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -	3.522	
igasiya ya ka aharini a sir	33	3,"41	1.721	P.69C	3.498	

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The property of the control of the c

o anva un productiva da la caracteria più al mant de prendita pape de bancerga per colle predicta per i par i

an juga satu digindi. Pada bar satu di kabul a Kalifaran da kaba kabarat di ini kababat kabat kabat kabat bara

	PUNTA	y	<b>H</b>	Y/REVIT	R/RFXIT	all in the second
	η.	रामहाम देते	(THOHES)			
	and <b>a g</b> ame and said	p.ogn	ec , 2516	~ 000	1.000	
	(g (g	0.050	%.41# #.477	//	1.172 1.362	e de la companya de l
	₹9.	0.194	7.521	0.270	1,490	eggi.
	39 39	7.157 7.227	# 577 # 641	0.450 0.450	1.650	
	<b>79</b>	2.392	7.7VA	7.R62	2.022	
en en en en en en en en en en en en en e	<b>49</b>	7.38A	7.735 7.766	1.110	2.100 2.187	Elevanor de la companya della companya della companya de la companya de la companya della compan
en en en en en en en en en en en en en e	79 79	4,566	7,814	1.417	2,325 2,435	
	39	0.433 0.721	7,857 7,892	7.060	2,550	
e stalitika in de olikisi. Tarihir	19	A 632	2,034	2.377 2.664	2.67Ø 2.792	
alogade, del expla	. 39 . 49	7.031	0,077 1.015	2.067	2,998	
	79	1.137	1,058	3.250	3.022 3.080	
in the state was to state	9	1,337	1.109	3.828	3,167	an ingani
	39 39	1.424	1.131	4,075 4,367	3.232 3.292	
	19	1.424	1.173	4,640	3.352	
i dirental kin	39	1.718	1.187	4.907	3.392 3.432	
	79	1 . 917	1.209	5,477	3,455	
ing sa sa sa sa sa sa sa sa sa sa sa sa sa	79 79	2.121	1.233	<b>5.777</b> Species of <b>6.96</b> 0	3.522 3.570	
	29	2.253	1.265	6.437	3.615	
	79	2.35A	1.276 1.289	4.737 7.050	3.645 3.682	
	79 and 4	2,597	1.299	- 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1	3.712 3.755	
	39 	2.73° 2.882	1.714 1.32 <sup>8</sup>	7.825 8.227	3,795	Mile Bufutbaka 19.
	79	3.015	1.339	P.615	3.625 3.892	*
	3 <b>9</b>	3,149 3,318	1.362	9.480	3.930	
	30	3.412	1.372	9.75¢ 10.087	3.920 3.902	* <b>4</b>
	79 179	3,531 3,667	1,366 1,372	10.477	3.920	Geografia
er Bernald Bernald in der Leisen ber	19	3.79A	1.387	10.852	3,962	
				and the state of t		

m ka kitaki da kiri waki ukin da pareki i ka Luna, kitaki ki ka niki kinan na ni kirini ina ita kakiti da t

# VIRCOUR PLUME POUNDARY COOPDINATES. RET 1

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0.	(Tyches)	(TNCHES)			•
1 141 41	м,: ио	4.35	a.nne	1.000	1 486.7
41	n. ~ 0.0	9.385	(4 <b>, 40</b> / 2	1.100	er en gety
41	0.197-	A.477	α.395 α.742	1.362	
41	a.26a a.398	0,543	1.137	1.702	
	7.F25		1.502	1.782	The Hills
41	a.640	3,652	1.838	1.862 1.950	
19 <b>41</b> - 19 21 2	#.899 1±478	W. 482	2,567	2.742	
41	1.262	734	3,605	2.797	6 - 24 - 1 - 1
41	1.452	Ø.745	4.147	2.127	
	1 * 200	753 3,764	4.572 · · · · · · · · · · · · · · · · · · ·	2·152 2·182	al debet
41 4 <u>1</u> 5.55555	1.750	767	5.377	2,192	je se svaja edi.
41	2.082	14.774	5.947	2.212	1 <sup>1</sup> · <sup>1</sup> · <sup>1</sup> ·
# <b>41</b>	2,211	A 776	6.317 6.872	2.217 2.215	$\mathcal{F}_{\mathcal{A}}^{\mathcal{A}}(\mathbb{R}^{n}) = \mathbb{R}^{n}$
i 4 <u>1</u> i min <b>41</b> ilman jilal	2.494	0.775 4.787	7.400	2.227	yana Pinkur
41	2,793	9.767	7,082	2,192	
41,	2,992	4.767	A,550	2.192	e Alexandra

randentila elementario della calcala della collica della collica della collica della collica della collica del

a taran de jugitar poeta esti tablego en en la casa de grado do la consecração en entra de combinado de la col

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en en en kanterali kening birang mili kantela 1 de kepadahan debelah dan baharan bereminin beberah mesekin

anda material file anara fortura alema application especies anti-more problem apparation for a community of the

umpatikate, ki kati umpata matawa katika majahi baka katana katika wa katika majaka majaka majaka ja wa 🕻

ngan benduaran makalah mengan menjatan menjagan diakan mengangan mengan bendarak kendaran bendaran bendaran be

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MISCOUS PLUME ROUNDARY COORDINATES. SET 1

**************************************	(INCHES)	R (INCHES)	X/REXIT	R/RFXIT	
43	9.000	e.35n	<i>ଦ</i> ୍ଗ୍ରୁଗ	1,000	
4.3	0.000	r 392	0.002	1.120	111 1 1 1 1 1 1 1
43	0.078	0.460	2.222	1.315	
43	7,197	0.517	0,542	1,477	
43	0.30R	m 563	ពុំនគ្គ	1.610	
43	m.406	0.596	1.160	1.702	Contract Contract
43	0.528	0.622	1,510	1.777	
43	7.641	0.620	1.832	1.772	
43	Ø.754	0.605	2.155	1.732	
<b>43</b>	0.890	M. 605	2.542	1.727	i faran gi
43	1.025	0.616	2.930	1.760	
43	1.157	0.612	3.305	1.750	e fey a si de
43	1.318	0.605	3.765	1.730	
43	1.472	M.599	4.205	1.712	
43	1.586	7.598	4.532	1.710	
43	1.683	0.612	4.810	1.750	
43	1.829	0.624	5,225	1.772	
43	1,987	9.639	5.677	1.800	
43	2.124	M.631	6.070	1.802	
43	2,275	Ø 648	6,500	1,830	
43	2.424	0.649	6,925	1.855	
43	2.565	A.654	7.33#	1.870	
43	2.727	0.665	7,792	1.900	in the second state of the
43	2.279	M.681	8.225	1.945	
43	3,449	0.696	8.712	1.99@	
43	3.230	7.71	9.227	2.027	
43	3,447	9,718	9.A5a	2.052	

Na egya jamata és a 😁

والمرابع والمرابع والمنافي والمستوا مستواليه والمنافية والمنافعة والمرابع والمرابع والمنافعة والمنافعة والمرابع

. 그러워 보통하는 어디지는 지수와 보고 있는 사람들은 사람들은 사람들이 보<mark>었다면서 한국을 가장 하는 것이다. 그리는 사람들은 사람들이 사용하다는 사람들이 가</mark>지를 다 되었다. 그리는 사람들이 바다를 다 보고 있다면 보다.

an de la completa <del>de grande des</del> de <mark>la comp</mark>año, de la propio de la completa de la completa de la completa de la

그리는 이 사는 문에 가는 사는 이 교수는 살아들은 살아보다는 사는 사람들은 사람들이 가는 살아보고 함께 그렇게 되었다. 그는 사람들은 사람들은 그들이 그렇게 함께 없다.

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### VISCOUS DI UME ROUNDARY COOPDINATES. SET 2

PENTI)	<b>y</b>	R	Y/PEYIT	R/REXIT	
₩ <b>0</b> •	(IviCities)	CINCHEST			
	രൂത്ത	0.350	th * landin	1.000	· · · · · · · · · · · · · · · · · · ·
•	0.931	A.472	0,090	1.347	
	c.071 -	2.524	2.202	1.497	
1	4,127	9.578	P.362	1,652	
	4 200	W. A51	V.572	1.860	
1	9,294	0.727	0.A40	2.077	n Verstan e. 🛔 n l
1	7.416	O.RRT	1.187	2,290	
1	n. 523	M. AAA	1.495	2,537	
1	9.647	9.975	1.850	2.785	
1	785		2.242	3.010	
ï	0.996	1.121	2.587	3,202	
1	0.036	1,121	2.596	3.202	
1	1.075	1.221	3.072	3,400	* * * * * * * * * * * * * * * * * * * *
ī	1,183	1.273	3.380	3,637	of the same of the
1	1.310	1.340	3,742	3.830	
. 1	1.440	1.462	1997 - 1997 - 1994 - 1994 - 1994 - 1994 - 1994 - 1994 - 1994 - 1994 - 1994 - 1994 - 1994 - 1994 - 1994 - 1994	4.022	
1	1,593	1,483	4,852	4.237	
<b>1</b>	1,732	1.540	- 1	4,400	
1	1.798	1,533	5.117	4.380	
1	1.894	1.575	5.412	4.500	
1	1 • <sup>D</sup> 🛱	1.641	5.480	4,687	
- 1 1 to 10	2.234	1.725	6,382	4.927	
1	2.439	1.802	6.067 7.540	5.147	
1	2.647	1,897	7,562	5.420	
1	2.574	1.967	A,212	5.628 5.758	ing and the second of the seco
1	3.097	2.012	1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1	2./29	

사고들당, 소리 물리하다는 이 등 취임적인적으로 하시아 등 위적 배우를 가고 되었다. 이 사진 하는 하는 상태를 사고하다 하시아 가장 한 상태는 상품을 만<mark>할</mark>다.

医环状的 计正式图像 医中枢性结合 化二氯甲基甲基 医皮肤皮肤皮肤皮肤皮肤皮肤皮肤皮肤皮肤 医多种皮肤皮肤皮肤皮肤皮肤皮肤皮肤皮肤皮肤皮肤皮肤

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eventos i mas formas. La electria pero primtera evaluati, en origen primer en estran propertada la presentada

e de la la caracación de la caráción de la calcación de la calcación de la calcación de la calcación de la cal

Norvaria de la cidade de la cidação de la case. Esta a secesa de coje, de desenda esta acesa de aintesta de individada (a la

가는 하는 100mm의 사람들이 하는데, 100mm의 소문이 모든데 보고 100mm의 하는데 보고 100mm의 유통을 하는데 보고 함께 하는데 보고 100mm의 보고 100mm의 100mm의 100m

MIRCONS CLIME ROUNDARY COORDINATES. SET 2

				•
PHOTO	<b>y</b>	a, a partir de la companya de la companya de la companya de la companya de la companya de la companya de la co	Y/RHYIT	RIREXIT
·n.	(IMCHES)	(INCHES)		
3	0.000	0.350	0.000	1.000
3	0.276	9.517	7.217	1.477
3	0.192	4.657	a.55m	1.877
3	0.290	11.746	V . P39	2.132
3	4,405	M.ASA	1.157	2.372
Julius I. <b>3</b> teas and	9,525	0.966	1.500	2.587
3	11 1.44	W.ogf	1.840	2,832
3 1 21	n 762	1.273	2.177	3.065
3	4.888	1.165	2.537	3.327
u kati 👸 ugʻiri	1 . 32	1.257	2.05m	3.592
3	1.207	1.342	3.447	3,835
3	1.360	1.424	3.957	4.067
4	1.529	4.514	4.367	4.325
3	1,485	507	4 A15	4,562
3	1,944	1.674	5.267	4.782
3	2.123	1.758	5.78c	5.422
3	2,229	1.828	6.367	5,222
3	2.408	1 OHR	6.88%	5.452
3	2.576	1.965	7.369	5.672
3	2.792	2.075	7.977	5,930
3	3.030	2.157	8+657	6.162
3	1.222	2,245	0.205	6.415
3	3.619	2.397	17.317	6.459
3	3,837	2.457	10.052	7.424
3	4.195	2.502	11.727	7.150
الله والله المائلة	4,343	2.53R	12.410	7.252

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VIRCOUR PLIME BOUNDARY COORDINATES. SET 2

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PHOTO		e	Y/PEYIT	R/REXIT
• 0.	(INCHES)	(INCHES)		1 4 1
5	ଅ•ୁ୯ହାଆ	1.752	r.aya	3,863
- 5	กุ้หตุด	0.365	14 • 01 (A) W	1.043
	0.755	2,453	P.15A	1,294
5 5	m.124	2,545	353 Julie 1	1.558
5	0.187	0.626	0.533	1.789
5	0.295	717	P. 842	2.027
. 5	0.373	vi.775	1.065	2.214
5	m.447	# . 84K	1.279	2.418
5	4.543	7.897	1,552	2,563
5	9.66R	7,975	1.000	2.785
	7. P12	1.056	2.321	3.016
5 5	7,961	1,143	2.745	3,265
5	1.079	1,239	3.083	3.541
5	1.241	1.319	3,545	3.766
ś	1 403	1,391	4 00B	3,974
5 5	1,551	1.477	4.432	4,219
	1.489	5.47	4.826	4.421
. 2. 5 5	2,713	1,669	5.751	4.768
<b>5</b>	2.188	1.744	6.251	4.973
5	2,330	1.80	6.682	5.141
<u>ś</u>	2,477	1.859	7.778	5.310
5	2,590	1.028	7.427	5.528
<u> </u>	2.755	1.98	7.871	5.668
5 5		2.045	P. 267	5.844
	2,900			
5	3.105	2.109	- 11 - 12 - 12 - 13 - 13 - 13 - 13 - 13	6.026

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## VISCOUS PLUME ROUNDARY COOPDINATES. SET ?

	PUOTO	(InChEc)	(INCHES)	Y/REXIT	RZREXIT	
	7	a . 198	1.366	0.000	3.943	
	7	4,465	0.429	G.184	1.225	
	,	9.170	n.531	0.487	1,518	*
	7	0,275	M . AMO	0.787	1.740	
	7	4.387	4.675	1.185	1.929	
	,	7,492	7.731	1.40=	2./87	i v
		9,600	A.A11	1.742	2.318	4
	<del>,</del>	n,79m	A . 894	2.756	2.543	
	7	0,940	0.958	2.685	2.739	
	7	1.000	M 095	2.856	2.843	
	7	1.116	1.046	3.190	2.990	100
	7	1.250	1.194	3,572	3,154	
	7	1,410	1.148	4.054	3.279	
	<b>7</b>	1.555	1.201	4,443	3.432	
18	. <b>7</b> 5 5	1,724	1.248	4,926	3,565	
	7	1.866	1.295	5.333	3.699	
1 - 10 - 10 - 10 - 10 - 10 - 10 - 10 -	7	2,420	1.351	5.771	3.859	The second second
	7	2.188	1.397	6,251	3,990	
	7	2.334	1.457	6.669	4.163	
	7	2,499	1.800	7.140	4.310	
	7	2.676	1,554	7.644	4,441	
	Ź	2,859	1.446	A.160	4.588	
	7	3.038	1.646	P.68#	4.704	in the second
	7	3,24%	1,689	9.254	4,826	
	7	3.412	1,717	9.749	4.906	
a and a said a second	7	3,569	1.753	19.19A	5.008	
						Sangar Pagar

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VISCOUS PLUME BOUNDARY COOPDINATES, SET 2

	PHOTO	(INCHES)	R (INCHES)	ANDEALL	R/RFXTT	
	9	a. aga	1.376	9.000	3.930	· · · · · · · · · · · · · · · · · · ·
	9.	er nom	7.342	0.000	0.976	
	9	# N5A	W.388	4.160	1,109	
	9	2.140	6.454	0.400	1.296	
	9	9.240	17 . 57A	0.685	1.452	
	9	A.361	9.562	1	1.697	
•	9	0.483	0.612	1.380	1.747	; ;
	9	7.623	4.656	1.781	1.874	, is
	9	9.796	7.724	2.274	2.949	
	9	0.068	4.781	2.765	2.232	
	9	1.133	<b>%.837</b>	3.236	2.392	
	9	1.463	7.042	4.181	2.692	
	9	1.643	0.991	4.695	2.832	:
	. 1 <b>. 9</b>	1.830	1.042	5.22ª	2.976	
	9	2,430	1.086	5.886	3.173	
	9	2.234	1.124	6.384	3.212	
	9	2.441	1.152	6.973	3.292	7
	9	27612	1,170	7,462	3,368	
eng of the garden of the	9	2.842	1.195	F.12M	3.414	
	9	3.009	1.226	8.596	3.503	
and the second second	9	3.246	1.254	9.274	3.583	

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# MISCOUS PLUME ROUNDARY COOPDINATES. SET 2

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PHOTO	(14.ChEd)	R (INCHES)	X/PEYIT	R/REXIT	es begår en det en de en
11	ம் <b>. ் த</b> ு	1.347	m. man	3,848	Host.
1.11 ( )	e aga	2.367	<b>₹.</b> 000	1.249	· ###
11	a,59	W. 455	0.160	1.370	Ş.
11	C.164	0.564	0.469	1.612	
11	9.230	0.45P	P.682	1.881	î
. <b>. 11</b>	0.324	740	0,927	2,114	·
11	0.419	7.435	1.196	2.385	
11	0.53A	4.921	1.536	2.632	
11	7.654	1,005	1.967	2.872	1
1 4	9.811 9.987	1.174	2.318 2.819	3.165 3.441	
 11	1.147	1.204	3.276	3.717	:
11	1.337	1.386	3.421	3.961	
11	1,521	1.485	4,346	4,243	energy of the British
11	1.884	1.433	5,384	4.666	
11	2.085	1.723	5,057	4,924	
11	2,287	1.824	4.533	5.218	
<b>1.1</b> (2)	2.522	1.005	7.207	5.444	
11	2.726	1.973	7.789	5.637	

"我们是我们的我们是我们的,我们是我们的,我们就是我们的,我们就会会说,我们就会会说着我的**是我们的,我们就是我们的** 

医中枢病 计记录 化二氯化物 医电视电影 医抗性皮肤 化物质 医异物质 医血栓性管 医二烯二基基 重点 经付款 化溴化丙基甲基基甲基酚 经工程的 电影 电影 医外腺

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연용 PA 가능하는 경우는 가는 것은 가는 가는 가는 가는 수 있습니다. 그는 가는 사람들이 가는 다른 회원 등이 있는 물리이 받는다는 것을 가장하는 것을 받는다는 것을 하셨다.

"ISCUUS PLIME PUHNDARY CONPUINATES. SET 2

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	PLOTO	<b>y</b> 12 12	8	Y/DFYIT	RZREXIT	
	' n,	(INCHES)	(TNOHES)			
ing a second of the second of the	. 13		. <b>35</b> .	A CONTRACTOR OF THE STATE OF TH	1.000	A 51
	1.3	1.26A	a . 571	# .19p	1.632	•
Angelia de la companya della companya de la company	13	1,120	W.AAA	a. 370	1.897	1 12/3
	1,3	P.178	7.745	0.537	2.127	
alla Carrana	<b>1 3</b>	P+241	M . P15	18 9 1949 W. 6879 14 15	2,330	
	13	7,320	0.006	(*, 0.47)	2.590	• 1
	13	# 43A	1 BUA	1.252	2,875	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
	+3	4.4.30	1.120	1.540	3.200	
全国大学2000年11日	1.5	0.65A	1.211	1.887	3.460	and the second
	13	5.783	1.342	2.237	3.835	
		7.924	1.459	2.632	4,167	1.
	া ব্ৰ	1.74	1.550	3.067	4.427	
	13	1,217	1.634	3.477	4.670	The William Control
	13	1.354	1.734	3.870	4.960	••
Hat freeze a com	13	1,489	1.862	4.255	5.147	1111
	13	生,然何寒	1.816	4.295	5,187	
Marine and a stage of the		1.648	1.976	4.710	5,445	
	13	1.963	2.040	5.607	5.855	
	'- <b>13</b> 17 1	4.954	D 474	5.460	5.932	Tendaka
	13	2.131	2.466	6.087	6.190	
	13	2.493	2.200	6.937	6.579	
	13	2. App	2.310	6.857	6.600	
	13	2.544	2.334	7.267	6.838	
	13	2.427	2.513	5.077	7.180	
						agrija jebele

ulistija stoleninga ere i kara kr<mark>at</mark>eritat subetre krijeradu. Da dravete elemente ere krijaritus elemente krija

法人的过去式和过去式和过去分词 计电路处理性 经有限的 计可能控制 计设施通知 人名比尔 电对外图片 斯尔克拉斯 经收益帐户

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"我们为此的是自己的时间是一世的话,也是这些人的"我们"的"我们"的"我们"的"我们"的"我们"的"我们"的"我看见我的"的"我们"的"我们"的"我们"的"我们

수리는 앞으로 내려가 는 다른 전에 살아보다 하는 아는 아니지는 얼마나 살려왔다. 불만 생산에 불리한 점하는 그 날은 아이트 아이트의 스토 워크는 안 나는 말로의

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# VISCOUS PLUME POUNDARY COORDINATES. SET 2

PHOTO 1	<b>Y</b>	9	X/REXIT	R/REXIT	See - en all title Caps
<b>**0.</b>	(Intrific)	(INCHES)			Min control
15	14 . CM 78	W . C. W.G	o. apa	0.000	Spirot and an analysis of the spirot analysis of the spirot and an analysis of the spirot and an analysis of the spirot and an analysis of the spirot and an analysis of the spirot and an analysis of the spirot and an analysis of the spirot and an analysis of the spirot and an analysis of the spirot and an analysis of the spirot and an analysis of the spirot and an analysis of the spirot and an analysis of the spirot and an analysis of the spirot analysis of the spirot and an analysis of the spirot and an analysis of the spirot and an analysis of the spirot and an analysis of the spirot and an analysis of the spirot and an analysis of the spirot and an analysis of the spirot and an analysis of the spirot and an analysis of the spirot and an analysis of the spirot and an analysis of the spirot and an analysis of the spirot and an analysis of the spirot and an analysis of the spirot and an analysis of the spirot and an analys
15		1.364	0.022	3,897	<b>8</b> .
15	14 0 M W	0.365	0.000	1,743	,
7 <b>5</b>	n.023	4.418	2.064	1,194	
	0.063	n 477	2.182	1,343	
15	୍ । ଅପ୍ରକ୍ରମ ମୃକ୍ତ <b>ଅନୁମ୍ୟନ</b> ୍ତ	565	2.492	1.614	
15	r.181	0.611	0.51F	1.745	7
	3.243	9.661	0.694	1.887	
15	7.319	721	0.911	2,061	9
15	n 39p	A. 803	1,114	2.294	
15	0.483	9,865	1.380	2.472	
15	9.747		2,134	2.873	n waar in In
15	a.891	1.034	2.545	2,954	
15	1.262	1,087	3.034	3.195	
15	1.247	1,143	3,459	3,265	
15	1.36A	1.190	3.908	3.399	ma walang
15	1.459	1.267	4.741	3.619	
15	1.214	1.394	5,175	3.726	40, 41 (A)
15	1,055	1.338	5.586	3.823	
15	2.094	1.770	5.984	3.914	yr. shi
15	2.385	1.435	A.813	4,299	
15	2.530	1.464	7.220	4.193	
15	2.679	1.498	7.454	4,279	** ** ** * * **
	2.866	1.532	R 189	4.377	and the second
15	3.042	1.558	A . KO1	4,450	
15 15	3,221	1.579	9.203	4,510	

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anaki toto, tulkanga saki kulu ingasa parakan daha labasa aliki inganggan peralaga dan askang diga kan kalang

VISCOUS PLUME BOUNDARY COORDINATES. SET 2

PUNTO S	y. <b>Y</b>		Y/REXIT	R/RFXIT	
<b>`</b> 0.	(INCHES)	(INCHES)			ing salah di kecamatan di kecamatan di kecamatan di kecamatan di kecamatan di kecamatan di kecamatan di kecamat Kecamatan di kecamatan di kecamatan di kecamatan di kecamatan di kecamatan di kecamatan di kecamatan di kecama
17	୯.ଫ୍ୟଟ	<b>6. 四月</b> 6	e.066	0.000	
17	0.000	1,344		3,841	
17	a aye	4.387	ଦ୍ରହନ	1,085	
17	A.426	0.443	0.073	1,265	
17	0.04R	0.513	V.138	1.465	
17	0,091	6 <b>58</b> 0	Ø.26m	1,656	
17	7.146	0.450	0.41A	1.856	
17	m . 191	4.749	A,545	2.001	
17	7.244	M. 754	P.696	2.154	
17	7,312	N 815	n.891	2,330	
17	Ø.388	7,876	1.109	2.593	
17	7,517	7.93A	1,476	2,659	
1.7	9.626	2.992	1.789	2.834	1.
17	0.751	1.058	2,145	3.923	Professional Control
.17.	M. 89M	1.114	2.543	3.183	
17	1.931	1,170	2.945	3.343	
17	1.152	1.226	3.292	3,503	*
17	1.262	1.279	3,605	3.654	
17	1.463	1.338	4.008	3.823	
17	1,541	1.400	4.403	4.801	
17	1.706	1.460	4.875	4.170	and the control of th
17	1.973	1,519	5.353	4.339	
1.7.	2.029	1.571	5.797	4,488	ala saya ing Asi
17	2.192	1.619	6.262	4.626	
<b>17</b>	2.374	1.667	.,	4,764	o juma menerala ji juga kan Alam
17	2.534	1.708	7.240	4,881	•
1.7	2,683	1.747	7.667	4,993	
17	2.F51	1.795	8,147	5.128	the seat of the said
, a ja <b>3 7</b> juga – se	3.000	1.842	A.59A	5,262	Herodynanaka kal
17	3.278	1.029	9,365	5.510	

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### VICTOUS PLUME ROUNDARY COORDINATES. SET 2

C.	PLOTO	(InChed)	P (TMCHES)	Y/REYIT	RZREXIT	
	19	0.090		0.000	0.200	
	19	a cya	1.366	0.000	3,973	
	19	9.982	4.379	0.004	1.083	•
	19	0.034	0.439	Ø. Ø9A	1.254	
	19	p. 969	4,492	A.19A	1.405	
and the second s	1.9	P.197	0,53A	0.305 0.580	1.538 1.867	
en en grafia en fremans en en en en en en en en en en en en en	19 19	0,203 0,253	0.454	0.722	2.016	and the
	19	2.295	0.755	7.R47	2.158	
	19	m.364	M. BUM	1.040	2,285	
	19	9.432	0.841	1.234	2.403	
	19	0.514	0.896	1.469	2,561	
er en en en en en en en en en en en en en	1.9	P.685	7.986	1.956	2.816	
	19	7.769	1.033	7 m 7 2 7 9 8 m 2 2 2 2	2,952	is mules in itel
	19	<b>7.871</b>	1.076	2.49a	3.074	
	19	7.97A	1.119	2.794 3.052	3.196 3.296	
	19	1.068	1.154	3,688	3.523	
	19	1.448	1.285	4.137	3.672	
i seliku diben kecamata	19	1.584	1.336	4.526	3.817	
en de la companya de la companya de la companya de la companya de la companya de la companya de la companya de La companya de la companya de la companya de la companya de la companya de la companya de la companya de la co	19	1.709	1.376	4.884	3.930	
The state of the s	19	1.842	1.407	5.264	4.019	AL
	19	1.978	1.465	5.651	4.186	
•	19	2.145	1.519	6.12R	4.337 4.490	
	19	2.294	1.572	6.555 7.080	4.615	
	19 19	2.47R 2.664	1.615	7.611	4.721	
	19	2.879	1.690	P. 225	4.828	
e to complete expe	19	3,252	1.729	A.720	4,939	gur uzun eju
	19	3.220	1.764	9.250	5.039	
	1. 1. 1. 9 - 1. 11. 11.	3,392	1.789	9.692	5.113	

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VISCOUS PLUME POUNDARY COORDINATES, SET 2

	PHOTO	Y	R	Y/RFYIT	R/REXIT	1 2
	NO.	(INCHES)	(TUCHES)			
$\frac{1}{2} \frac{\partial u}{\partial x} = \frac{\partial u}$	21	o ran	1.345	σ,πμο	3.899	
	21	e nga	~ 394	0.000	1.127	
	21	0.010	2.445	P.053	1.271	
	21	0.050	0.492	v.142	1.405	
	71	0.287	7.545	0.249	1.556	te de la composition della composition della composition della composition della composition della composition della composition della composition della composition della composition della composition della composition della composition della composition della composition della composition della composition della composition della composition della composition della com
Salah ya Miji aya	?1	9,135	7.58A	Ø.387	1.689	. 1
	21	7.196	n. 454	7.567	1.867	
gradient and and	21	Ø • 251	494	0.716	1.989	
	?1	0.303	P.747	Ø.865	2.134	
The garden has also	21	2.364	784	1.040	2.241	1
	21	0.439	a.825	1.254	2.356	% & .
· 特别多点的新疆	21	0,514	<b>.</b> .863	1.469	2.465	
	21	7,592	", 299	1.692	2.570	
	21 21	W.650	9,937	1.856	2.676	
		741	7,060	2,118	2,770	
	21	# #23	1.003	2,352	2.865	
	?1 ?1	n, 299	1.036	2.570	2.961	
	21	2,996	1.071	2.845	3.259	
	21	1,490	1.100	3.141	3.165	
	21	1,298	1.137	3,437	3.250	
	21	1.414	1,170	3,710	3,343	
	21	1,532	1.214	4.039	3.468	
and the state of t	21	1.647	1.264	4,377	3.612	
	21	1.740	1.354	4.706	3.743	
April 1985 April 1985	21	1.567	1.399	4,070	3.848	
	71	2,486	***	5.335	3.997	
	21	2,173	1.435	5.733	4.101	
	21	2,265	1,531	6.298	4,223	us Arrent, Tri in
And the second second	<u></u>	7 4 7 D 7	1.00	6.471	4.375	

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마니티 아이는 1000년 이 아이는 이 보고 하는 이 이 사람들은 다니는 사람들이 아이들이 되었다. 그는 아이트를 하는 사람들이 아이들이 다른 사람들이 다른 사람들이 되었다. 그는 사람들이 다른 사

# VICTOR PLUME ROUNDARY COORDINATES, SET 2

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25	9,900	1.366 0.00	
25 25	ଜ ଜନ୍ମ ଜ ଜନ୍ମ	0.444 0.06	
25 25	M, M27	7.516	
25	7.113	0.577	2 1.649
25	M,171	0.45 G.45	
25	a,23H	7.711	
75 25	a,327	0.758 0.93	
25 25	7.401 7.501	2.815 1.14 0.870 1.43	
25	a . Ago	0.924 1.74	2,641
75	#.726	7.45	x 3 4 4 1 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4
25	P. 446	1.026	
25 25	7,969	1.082 2.77 1.130 3.14	
25 25	1.101	1.191 3.60	
	1.414	1.243	3.552
25	1,575	1.294 4.50	3,697
25	1.774	348 D. C. S. S. S. S. S. S. S. S. S. S. S. S. S.	
25 25	1.929	1.397 5.51 1.453 5.99	
25 25	2,497 2,28#	1.453 5.99 1.507 6.51	
25	2.431	, 1, 552 minys, e.g. 116, 94	
<sup>7</sup> 5	2.581	1.400 7.37	

agravitat et 1,600 kun engang da ragaga an 14 ki 10 ki pangan di agan dangan kang anaran di timbangang kangkangkangka

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### LYTECOUS PLUME BOUNDARY COM MINATES SET 2

으로 발표되었다면 중요한 전문 사람들은 대한 연속되는 이 불다는 것이 이상하는 보다는 등을 하는 하다면 모습을 하는 것이다고를 수 없다면 하는데 모든 것을 다니다.

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kali misangan pingah pengiga pangangkan pingapan kalini pakel bahaka melikang mengingak panakan kingin pingap

i i kaj Trolamojo je kaj trok	PHOTO			Y/PEXIT	RZBEX-IT	
	' A .	(Troves)	(TNCHES)			A The State of the
	27		100	e opa	3,973	
	27	0.400	1.382	0.000	1.091	
	27	0.010	2.441	0,053	1,260	
	2 <b>7</b> 27	0,050 0,080	496 2.561	0,142 2,229	1.673	
TAME EVELOPE CHECK A CO	27	7,148	4,602	7,422	1,720	
	27	M.183	@ A43	°,527	1.838	
	27 27	9,255 0,337	M.692	r.729 M.951	1.976 2.132	
n yayan dariya singka ili ya.	27,1415	# <b>43</b> 6	4.802	1.245	2.292	
	27	0.541	W. 86:A	1.545	2.458	
	27 27	0.863 0.892	0,007 0,065	7.792	2,592 2,759	A STATE OF THE PARTY OF THE PAR
ere v sag i uttora so		7.937	1.021	2.676	2.916	
	27	1.748	1.779	7.094	3.0A3	
	27	1,338	1.172	3,823	3,348 3,477	The state of the s
i kuwa 1950 na Www. La wakazi sa min	97   97	1.516	1.21 <sup>7</sup> 4.258	4.330 4.657	3.594	ili i santal
	27	1.916	1,382	5,188	3.721	
	27	1.976	1.342	5.646	3.834	
	27 27	2.139 2.280	1.38 <sup>8</sup>	6,113 6,515	3.966 4.083	
	27	2.449	1.475	6.99R	4.215	

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#### MISCOUS PLUME ROUNDARY COORDINATES, SET 2

	PROTO	y	P	X/PEYIT	RIREXIT	
	MO.	(IMCHES)	(TNCHES)			d
	31	្ត្រ ក្នុកឲ្យ	- M. M. M. M.	0.000	9.000	
	*1	r • Ø Ø Ø	1.376	0.000	3.930	
	- 31	P . 700	4.362	0.000	1.034	
	31	0.006	0.478	0.018	1.367	
	71	7.427	3.566	0.078	1.616	
	31	ก.กวล	2.638	M.222	1.823	1
* .	. · <del>.7</del>	n.13n	7.706	0.371	2.016	ana kata da 🗼
	31	0.186	0.784	7.531	2.241	1
	31	0.246	M_855	6.702	2.443	4
	31	7.314	и.913	0 89A	2.607	**
	31	2.39A	и 95я	1.138	2.739	ert i tra i tre 🛊
	31	0.497	1.932	1.420	2,948	
	31	2,576	1,792	1.645		
•	31	7.677	1.130	1.934	3,171	1
	31	2,756		and the second s	3.254	un air bio ik
•	71	0.832	1.183	2.161	3,379	
talent talent	The second secon	The Control of the Co	1.244	2.378	3.554	
	<sup>3</sup> 1	n.921	1.316	2.632	3.761	
	31	1.723	1,302	2.923	3.977	
	31	1.127	1.462	3,499	4,177	
	31	1,223	1.526	3,494	4.359	

"大","我们是我们的我们的,我们就是这一个一样,我们的事情,我们就是这一个一样的,我们还有一个时间,我们也是不是一样的。""我们就是我们的。""我们就是这样,

. 어느 나는 이 보고 하는 사람들은 사람들이 다른 중요한 이 그 요즘 이 없는 아름다고 하는데 되었다. 그는 학생들은 그는 아름다는 중요한 사람들이 살아 다른 사람들이 살아 없다.

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# VISCOUS DELINE POHNDARY COORDINATES. SET 2

为"大大"的"大","我们是这个""我们","大"的"大","我们","我们"的"大","我们"的"我们"的"我们","我们"的"我们"。"我们"的"我们","我

ala salatan 1800 kalendari da 1800 kalendari da 2000 kasar da 1808 kata salatan da 1808 kata salatan da 1808 k

kantikisa di katalah menjada di terbahan katikan kankan ditibaka di hakatan di kantan berasa dalam kantan kat

	DI GTG	(1000Ee)	(TNCH <sup>E</sup> S)	······································	R/REXIT	
	44	<b>√</b> ุแผูด		2.222	1.000	
	3.4 7.4	<b>%.∧2</b> % ∴	0.479	4.257 2.222	1.370 1.552	
	7.4	7.077	61.543	0.495	1.715	
tarang ang talah kalanggar	74	0.203 	₫.67° ₩.725	0.582 2.797	1.915 2.072	
	34	r,356	#.784 #.829	1.017	2.23Ø 2.37Ø	
en in de la companya de la companya de la companya de la companya de la companya de la companya de la companya La companya de la companya de la companya de la companya de la companya de la companya de la companya de la co	34	2.549 2.665	a.869	1.572 1.900	2.492 2.672	· · ·
	74	0.911	1.932	2,682 3,669	2.950	
en de la companya de la Companya. La companya de la companya de la companya de la companya de la companya de la companya de la companya de la co	34	1.196	1.118	3.417	3.195	
e jako komen erint	74	1.327	1.152	3,772 4.357	3.292 3.402	
	74	1.687	1.232	7.92% 5.22%	3.520 3.650	

ka kulangan dapi dan milakan kiri kada katan berkulan kerkulan dan dan bagi berka permekan mengan dari

Base digit of Fig. 1987 i provide all reportations from the provincial and a contract the contract in the contract be

VISCOUS FLUME POUNDARY COORDINATES. SET 2

PHOTO	<b></b>	<b>.</b>	YARFYIT	RZREXIT
r. Ü • ⊤	(INCHES)	(TNOHES)	-	
37	ଖ.୯୭୭	Ø.35#	n.040	1.000
<b>7</b> 7	0.421	0.443	0.760	1.265
37	M. 463	6 494	4.180	1.412
77	1116	P 546	0.332	
37	0.157	9.586	2.450	1,560
37	0.294	15-17# <b>(A38</b>	0.582	1.675
37	2,243	0.476	€.752	1.522
77	0.333	7.705	7.952	1.932
27	3.389	n.735	· · · · · · · · · · · · · · · · · · ·	2.015
37	2,471		1.112	2.100
37	# 550	/4.781 7.803	1.745	2.232
7.7	7.640	グ・17403 	1.572	2.295
47			1.839	2.442
37	が 4 7 1 ほ つ 4 8 1 馬	4.879 0.892	2.030	2.512
37			2.33	2.550
	Ø.910	2.921	2.603	2.632
37 37	4 949	* 066	3.062	2.760
37	1,269	1.204	3,425	2,870
37	1 441	1.043	4.117	2.980
	1.612	1.089	4.605	3.112
77	1.789	1,123	5.112	3.210
37	1.090	1.151	5.712	3.287
17	2.188	1.187	6.252	3.372
37	2,353	1.221	6.722	3.487
77	2.472	1.292	7,062	3.692
37	2.646	1.334	7.560	3.812
47	2.768	1.442	7.010	4.120

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VISCOUS PLUME POUNDARY COORDINATES, SET 2

	PHOTO :	(INCHES)	(INCHES)	Y/REXIT	R/REXIT	- <del> </del>
	<b>3</b> 8	0.000	1,351	0.000	3.859	
	48	் செழுத	9.373	e age	1,067	
	38	# P10	0.424	0.053	1,211	
	3.8	0.061	4.73	0.173	1,351	
	. 38	7.111	0.524	0.318	1,496	
	₹8	7,157	0.576	7.449	1,647	- :
	38	M.216	9.626	O.A1R	1.789	
	48	7.275	A 682	9,787	1.949	
	38	M.356	0.732	1.018	2.092	
	3.8	7.446	<b>√4,76</b> 3	1.274	2.181	
	7.8	7.522	A. A22	1.492	2.350	
	18	4.625	n.871	1.785	2.490	
	38	9.737	9.914	2.105	2.612	
	<b>78</b>	7.98A	9.292	7.823	2.834	
	रम	1.127	1.055	3.219	3.014	+ +1
	38	1.259	1.690	3.597	3.139	· · · · · · · · · · · · · · · · · · ·
	38	1.422	1.139	4.463	3.254	Agent Programme
	38	1.595	4 . 4 H Q	4.557	3.397	. 1
	38	1.739	1.242	4.96P	3.548	
	, <b>3</b> 8	1.93#	1.283	5.515	3,665	
	3.8	2.126	1.320	6.075	3.772	
." .	3.8	2.298	1.361	A.566	3.890	·
• •	318	2,470	1.490	7.082	4,001	
	38	2.669	1.435	7.424	4.799	
and the state of the	18	2.806	1.481	P. MIR	4.230	ery er in
	٦ğ	2.968	1,526	F.480	4.359	:
	y n					

rách szerit szelvi a fotkel elekvin memenyenten is meg Bozha Bozha a bendet vel a kelekviát kelektírában fotba

#### VISCOUS PLUME ROUNDARY COORDINATES. SET 2

. · · · · · · · · · · · · · · · · · · ·	R/REXIT		X/REYIT	H	¥	PFOTO
				(TNCHES)	(INCHES)	<b>₹10 •</b>
	1.000		7.000	(A . 35:*	" . 000	43
1	1.162		0.000	11.447	ാ തുപ	43
	1.215		2.125	0.425	9.744	43
	1,285		0.319	n <b>45</b> n	0.114	43
1.3	1.357		9,565	/* 47E	4 1 <b>9</b> A	43
	1.397		9.812	0.489	4.284	43
	1.437		1.747	<i>е</i> 503	4.367	43
:	1.480		1.162	p.518	0.512	43
	1.545		1.842	0.541	7.645	43
	1.587		2.182	1,554	2.764	43
	1,647		2.535	577		43
	1,687		2.882	591	1 2099	43
	1.742		3.225	W . 61 ()	1.129	43
	1.787		3,597	9.424	1.259	43
	1.877		4,410	.657	1.543	43
	1.885		4.695	7.660	1.643	43
	1.905		5,225	667	1.929	43
	1.937		5.735	6.678	2.007	43
er e Severes .	1.977	7 T	6.252	7.692	2.188	43
and the second	2.000		4 805	7.7ad	2,382	43
	2.447	•	7.282	7.763	2,540	43
	2.000		7.732	7.700	2.706	43
	1.997	. *	A,212	11.490	2.974	43
	1.987		8.517	0.496	2.981	43
	1.965		А. ПВ7	A8A n	3.111	43
ali bayan baya	1,947		0.345	σ.582	3,271	43
	1.935		9.705	W. A77	7.197	43
america de la compresa	1.927	and the second	10,097	A75	3,534	43
	1,935		17,415	0.677	3.645	43
***	1.925		19,752	M . A74	3,763	43
	1.915		11.122	1.473	7,897	43
	1.895		11.515	6,663	4.034	43
	1.885	•	11.962	2.660	4,187	43
	1.877	ar ang ining	12.337	n 457	4,318	43
	1.865		12.785	4.653	4,475	43
	1.847	at the first	13.300	9.647	4,655	43

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grafikaturang raping malikibu beragagi dibus palaberang bugunan bahagi kalang tabungan bahalibali dibus dibin

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WISCOUS PLUME POUNDARY COOPDINATES. SET 2

PFOTO	<b>y</b>	R	Y/REYIT	R/RFXIT
Mn.	(INChed)	(INCHES)		
			7.000	0.000
14	M . 17 O 17	P. 400		3.973
44	9.767	1,366	n.000	1.118
44	n . 4 0 0	7,391	6.038	1.414
4.4	9,013		Ø. 1189	1,614
44	9.031	7.565	7.153	1.787
44	0.754	″.626 ∞.7g5	e.260	2.314
44	n.091	774	<b>∞.</b> 367	2.212
44	Ø.128	G 840	0.482	2.401
44	и.169 - 200	<b>ผ</b> ู้ 6 <b>ผ</b> ู้ 9	0.596	2.599
44	7,209	Ø.980	0.685	2.801
4.4	0.240	1 745	Ø.791	2,985
44	a.277		0.016	3,168
4.4	0.321	1.109	1.040	3.345
4.4	0.364	1.171	1.194	3,477
44	7.41R	1.217	1,298	3.641
44	g.454	1.274	1.469	3.803
44	7.514	1.331	1.592	4.771
44	9,557	1.400	1.672	4.128
4	0.585	1.445	1.789	4.286
44	7.626	1.500	1.912	4.472
44	0.669	1.565	2.035	4,670
44	A.713	1.635	2.100	4.764
14	0.738	1.667	2.261	4.899
44	2.791	1,715	2.401	5.077
44	7.840	1.777	2.581	5.228
44	9.993	1.530	2.723	5.415
44	7,953	1.895	2.881	5.593
44	1 . POR	1.957	2.079	5.726
44	1.043	2.074	3.096	5.931
44	1.084	2.676	3.221	6.297
44	1.127	2.134	3.379	6.271
44	1.183	2.195		6.373
4.4	1.228	2.231	3.44 <sup>P</sup>	6.622
44	1.277	2.31 <sup>g</sup>	3.76P	6.411
4.4	1,319	2.384	7,087	6.9A9
4.4	1.394	2.446	4.206	7.194
44.	1,472	2.514	The state of the s	7.124
44	1,532	2.564	4.377	7.498
4.4	1 . 1 . 1 . 5 9 1	2,624	4.748	7.669
44	1.462	2.484	4,884	7.842
4	1.709	2.745		8,420
44	1.765	2.847	5,044	8.196
** <b>* 4</b> ***	1,837	2.868	5.248	8.389
4.4	1.905	2,036	5,442	8.560
44	1.967	2.096	5.619	

tetur Peuret egitet it ett Veutius. Sette ditentura est op dagee af thegen atte 18. fan de Mitain at sestal M

# VIRGOUS PLUME BOUNDARY COORDINATES. SET 2

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PHOTO	7 <b>y</b> ·	R	X/PEYIT	R/REXIT	¥ .
۸0.	(INCHES)	(INCHES)			
•					; E
46	ମା, ଦମ୍ମ	1.355	៤.៤៧៧	3.872	
46	ं <i>ल</i> ्ड ५ (म.क	r4 420	P. POP	1,225	
46	0.016	6.52B	P.047	1.485	
16	0.744	0.589	2.124	1,683	4 .
46	M . 12671	7.641	Ø. j 71	1.832	
46	0.081	709	0.231	2.001	
46	0,110	r.739	0.313	2.112	
46	M.135	Ø.776	<i>e</i> .387	2,216	
46	9.162	<b>ក</b> ្នុង <u>។</u> គ	Ø.462	2,338	:
46	7,195	0 R74	0.55A	2.498	
46	n.234	0.035	V.669	2.672	
46	0.261	7,983	2.747	2.810	
46	0.383	1.020	0.865	2,914	
46	7.332	1.065	7.040	3.043	
46	7,373	1.116	1.267	3,188	
46	0,410	1.172	1.196	3.350	·
46	n.46A	1.232	1.336	3.521	
46	9,501	1.312	1.432	3.748	100
46	a.564	1.379	1.612	3,939	
46	0.641	1.436	1,832	4.103	
46	4.492	1.491	1:076	4,261	
46	n.751	1,553	2.145	4,437	
46	a. P12	1.614	2.314	4.612	
46	a 25 B	1.677	2,452	4,792	
46	9.965	1.733	<b>ラ。E85</b>	4.953	
46	m.953	1.795	2.723	5.128	
46	1,612	1,855	2,892	5,299	
46	1,099	1.921	3.114	5.498	
46	1.145	1.989	7,272	5.682	
46	1,227	2.055	3,505	5.871	2.5 - 5-2
46	1.283	2,141	3.665	6,117	
46	1.364	2.212	3,897	6.320	
46	1,446	2,278	4.132	6,509	
46	1,536	2.346	4.388	6.704	1,17%
46	1.428	2.412	4.452	6.886	
46	1.705	2.484	4,973	7.198	
46	1.788	2.571	5.168	7.344	
46	1.870	2.639	5.744	7.540	
46	1.943	2.69R	5.55%	7.709	. :
46	2.424	2.782	5.782	7,949	
46	2.111	2.847	6.231	8.133	
46	2.210	2,010	A.315	8.340	
	/ 4 / 1 "	F ■ 7 ± T.	# * *	8.536	

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ung mangka ing ang ang ang ang akawan panggang bang ang ikungga kanggan unggan pangga ang manggan ang ang ang a

VISCOUS PLUME ROUNDARY COORDINATES. SET ?

	PHOTO NO.	(INCHES)	H (Tyrhes)	ANGAIT	R/RFXIT	
	48	0.00	1,355	0.000	3.872	
	48	a . a g g	13 4 (3 A	0.000	1.165	* 2
	48	ମ, ଉମ୍ବ	1,529	0.027	1,512	
	. 48	0.023	ตุเรียน	9.064	1.672	
There is a second of the second	48	0.040	0.641	0.116	1.832	1.0
	48	258	M 696	0.164	1,989	
	48	0.081	7.734	P.231	2.098	
	48	9.097	0.78m	2.278	2.230	en general de
	48	7.124	0,425	6 .35A	2.356	• .
	48	0.13A	a_R74	396	2,496	1.1
	48	P.165	0.927	V.471	2.650	
	48	0.206	<b>(4) Q R 3</b>	.e. / ሮ•580/	2.807	
	48	a,233	1.020	0.667	2,941	
	4.8	0.265	1.079	P.756	3.083	tana ak
•	48	0.303	1.13A	P.865	3.252	•
	48	W.349	1.247	9.09P	3.448	
	48	a.495	1.288	1.154	3.681	
	48	0,440	1.365	1.283	3,903	
	48	7 • F 3 F	1.446	1.447	4.132	
	4.8	0.561	1.516	1.603	4.332	
	48	4.610	1.5RQ	1.769	4.539	
and the second of the second o	4.8	7.669	1.656	1.912	4.730	
	48	A.72A	1.739	2.756	4.968	
er transport og skriver i det er er er er er er er er er er er er er	48	4.863	1,0,18	2.294	5.166	
	48	M. 953	1.273	2.434	5.353	
	48	0.927	1,947	2.647	5.562	
	48	0.090	2.798	2.827	5.737	
	48	1.047	2.457	2,992	5.877	
	48	1,296	2,110	3.132	6.055	
	48	1.156	2.190	7 - 7 - 1 - 2 - 3 <b>. 3 / 3</b> / 2	6.257	r per é, a fi
er en en en en en en en en en en en en en	48	1.227	2.253	3,505	6.437	
	48	1.301	2.341	3.717	6.689	
	48	1.380	2.412	3,943	6.891	
	48	1.466	2.483	4.188	7.795	ritulia di bila
	48	1,545	2,556	4,415	7.302	and the second
	48	1,647		4.704	7.531	1979.
ing serial and a second	48	1.724	2.714	4.937	7.753	ing a graph of the first
	48	1.830	2.703	5.141	7.980	
and the second	48	1.880	2.877		8,220	n Najvoje jedina
	48	1.073	2.054	5.637	8,429	
	4.8	2,89	3.217	5.96A	8.620	i Jangan Jangan Barata
	48	2.16F	3.780	6,195	8.800	

erantani), tetu andan kangarang pelawa keteratar ngarakan kateratan dara melulagan angarang menter

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## VICCOUS PLUME BOUNDARY COORDINATES, SET 2

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PHOTO	<b>*</b>	R	X/FEYIT	RAREXIT	
MO.	(INCHES)	(INCHES)			
	0.000	1.358	o . 49.4	3.879	7
FIN	a . a g e		0.000	1,125	
50	0.000	n.394	7.104	1.749	i
50	M . M 3.7	M,612	P.167	1,918	
E QI	0.05P	M.A71		2.132	
50	n. 199	746	7.282	2.345	10000000000000000000000000000000000000
50	7,134	0.821	0.382	2,498	
50	0.183	m , 874	r.522	2.867	
50	0.301	1.004	ø.86m	2.00%	
50	a.352	1.073	1.005	3.065	4,4
50	n.432	1,213	1.234	3,465	
50	a.53A	1.365	1.536	3.971	2.1
50	A.598	1.492	1.707	4.263	
50	9,493	1.587	1.981	4,535	
5 Ø	0.755	1.772	2.15A	5.064	
•	M.878	1.891	2.507	5.404	
50		1.966	2.790	5.617	
50	9,076		3.048	5,866	
50	1.267	2.053	3.279	6.726	
50	1.148	2.109		6.248	
50	1.21	2.187	3.479	6.420	
50	1.307	2.247	3.734	6.611	
50	1.383	2.314	3.952	6.826	4 1 1 4 11
50	1.460	2,389	4.170	7 044	
50	1,540	2.466	4,426	7.046	
50	1.638	2.527	4,679	7.220	
50	1.719	2.598	4.913	7.422	
50	1.808	2.669	5.164	7.624	
50	1,894	2.753	5.413	7.867	
5 g	1,993	2.837	5.695	8.107	
- M	2.991	2.905	5.975	8,300	
- W	と ・ ・ ・ ・ ・ ・ ・ ・ ・ ・ ・ ・ ・ ・ ・ ・ ・ ・ ・	and the first of t	• •	the state of the s	

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多数数据 的复数 电光线 阿哥克 医克尔基 医肾炎 医二甲基二氏 医马克氏氏病 "你说话,我们是是这个这个是是是这一种的人,你是这些人,这是这么是是是

[대통하] 아이트 전문 경기에 있는 항공인, 기본 그리면 발표가 되고 있는 것은 것이다. 그리고 있는 것은 사람들은 보고 있는 것으로 되었는데 하면 보고 있는 다른 것으로 되었다.

VISCOUS PLUME POUNDARY COORDINATES, SET 3

PLOTO	4 1 2 2 2 2 2 2	R	X/PEXIT	R/RFXIT	1
• n.	(INCHES)	(INCHES)			
1	o energia	Jane 18	P. ONB	0.000	:
1	a was	1 . 36 4	v . 00p	3.894	
1	a can	4.342	0.000	0.976	
1	מקרו, ח	4.434	7.080	1.240	
1 .	0.071	n ,527	4.202	1.505	
1	7.215	H KES	2.622	1,956	1.1.1
<b>1</b>	0.250	744	Ø.740	2.125	
1	0.363	1,797	1.038	2.276	
ī	0.484	7 A50	1,383	2.454	
1	4.632	े <b>५</b> ३२	1.905	2.665	
1	P.803.	4.015	2.294	2.971	and the second
1	7.961	1 MAR	2.745	3,110	
1	1.136	1.154	3.245	3.328	* +
1	1.527	1,313	4.763	3.752	
1	1.690	1,376	4.828	3.930	
1	1.843	1.428	5.266	4.979	A 1 5
4	2.707	1.478	5.735	4.223	a j
1	2.176	1.540	6.217	4.426	- 1
ar 🕯	2.374	1.428	6.784	4.650	
1	2.574	1.786	7.355	4.875	
· •	2.757	1.777	8 7 8 7 8 7 8 1 1 m	5.077	
ī	2.969	1.824	F. 482	5.224	
1	3,180	1 AB3	9,111	5.379	1
1	3,388	1.944	9.681	5.555	
ī	3,536	1.993	10.103	5.695	

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来,"我们也是我们,我们就是说,我就是是的人的,我们就是我的人的。""我们,我们就是一个女子,我们的人的人,我们就是我们的,我们就是我们的。""我们就是这样,我 "我们我们的,我们就是我们的,我们就是我们的,我们就是我们的人,我们就是我们的人,我们就是我们的人,我们就是我们的人,我们就是我们的人,我们就是我们的人,我们就

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# VISCOUS BLUME ROUNDARY COOPDINATES. SET 3

()	•	PENTO	y	A	ANEALA	RIREXIT	4
-	**	·	(INCHES)	(INCHES)			
		3	* * * * * * * * * * * * * * * * * * *	ሜ <sub>ራ</sub> ሎል ች	P. BOT	0,000	
	*	3	0.720	1.351	4.663	3.859	
		3	10 C 10 C	C. 366	ଟ ୁ ଫ୍ଲେଫ	1.747	
		3	6.237	457	7.107	1,307	
and the second	18 mg - 1	3	9.123	5.541	0.293	1,545	and the second of
		3	14.202	11.644	P.576	1.841	
		3	0.310	7.727	M.RA7	2.078	
		3	9,435	P.Rin	1.243	2.314	
		3	C.575	M.A71	1.643	2,487	
•		3	r.721	14.043	2.761	2,694	
	1.	3	9.874	1.704	2.49R	2.867	
		3	1.228	1.120	7,517	3.201	
	* .		1,382	1,192	3,04P	3,405	
		3	1.562	1.257	4.463	3.592	
1.2		3	1.751	1,322	5.004	3,777	10.5世纪474 - 直
		3	1.960	1.000	454.6	4.010	
		3	2.287	1.574	6.533	4.297	
		ž	2,511	1.544	7,173	4.399	

en de la companya de la respecta a viva esperante en de viva de la certada de la trata de la descripción de la

randa a la companya di manda di manda di Manda di Manda di Manda di Manda di Manda di Manda di Manda di Manda d

er<mark>ie</mark>le de la competition del

## WIRCOME PUNDARY CONTRACTOR SET 3

	PHOT(-	(InChée)	(TNCHES)	Den <b>xarevit</b> ion de	R/REXIT	<b>!</b>
		in the state of th		# <b>6</b> # 1	0.000	
and the second of the second o	້າ ເກັນ <b>ສ</b> ານ ຄວາມ	<b>は、120</b> 0 11 90 (120)	о.пир 5. <b>1.372</b> (1.11)	<b>ማ. ማጃ</b> ግ የአ <b>. ማ</b> ጀር 2 m.	0.00 <b>0</b>	
	5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	6 7 4 4	7.77	a ave	1,458	
	5	e 120	0 455	7 S 7 M 187	1.300	
	5	7 7E	6,543	7.213	1.552	
	5	7 157 H	) [0 <b>**17</b> ] [0 ]	0.436 2.734	2.036	
	フ ち	4.257 2.367	↑,713 ○ x,767	1.649	2.250	
	5	7,513	4 A71	1.467	2.487	1 + 1 1
	5	7.648	058	4 . 852	2.736	
	, a 4 <b>5</b> a	7.º35	1.739	2.385 200-201-201-201-201-201-201-201-201-201-	2.979	
e fra de le  el  el  (1) de la  eje me la	5	1, 17	1 ROS	2,492 3,425	3.141	el Versell.
		1.199	1.179	4,630	3.645	
	. <b>5</b>	1.641	1,347	4,450	3,850	
	5	1.973	1.432	5,353	4.090	71 THE

BARARI KAMBARAN BARARI KAMBARAN MINING BARARI MERINI MENDILAK BARARI KETANTAN MENDAMBARI MENDAMBARI KETANTAN B

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	0 MAN	1,351	· · · · · · · · · · · · · · · · · · ·	3,859
r fortu (redesignica fortugales), ocu	0.700 7.755	1.349	7.000 7.158	0.998 1.169
isti, hilis niz Hanastenas 🛂 elles H	7.245	4,492	7.405	1.405
na na raki na via salah a <b>ž</b> a salah a	2.360	7.429	1.429	1.798
**************************************	m.497	4.706 4.785	1.420	2.018
	7,816	19 A 4 7	2,332	2.401
n a near Eige - n a Conne	9,973 1.13€	4.966	2.781 3.245	2.587 2.772
	1.300	1,017	3.714 4.432	
en elan <del>a</del> n elan elan elan elan elan elan elan ela	1.400	1,790	4.57	2007-03 <b>/139</b> pagingal -
	1.957	1.161	5.59%	3.317

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reginal el antiche el cipitation de antiche en relative de la companya de la Mercina de la collega a la cripta

es agregos en la competención de la coloción de la comprehención de caracter de la coloción de establecencia d

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oulous des diement (se units rogeres), ou des parabolistes et dispersionement reproductive de la company des med

and the state of the companies of the object terms and a term of the contract the contract the contract of the

n karang Perukangan dang kandigan pada bagan 1966 aan dang berada dan bang ang bandiring na dinak mga P

A Granda vā tavo sagrījas jūgi sar Granda, orģio Balaukojo, states, kija Jovi Granda padi sajarina Bodi valdī d

ronis produkti na prima prima produktura in naturia jang terbeni kanang produkti na produkti na prima prima pr

ede respere esta a sede rola par a decesa de estados para estados estadas estadas estadas de estadas de estada

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ala kuan di padaan muun mikeda in di diad malan di bidi muur kinda kaala aha bidu di bida in keesia kindi bidu

	PUOTO		R	Y/PEVIT	RZREXIT
	MD.	(LNCHES)	CINCHEST	entificinal estations feature.	
	ally <b>g</b> . Table	A. A.	i in again is	o age	0.770
	<mark>9</mark>	្សា ស្សាទា មិនគឺ ភព្ពិកា	1.366	0.002 0.000	3.903 0.940
	g g	0,000 <b>6.66</b> 0.00	<b>c.365</b> ,		
in and the second of the secon	9	0,145 0,237	0.452	0.416 0.676	1.176 1,291
	9	7.437	0.557 2.597	1,234	1,592 1,705
	9	14.722	11, 435	2,063	
		1,022	703	2.919 3.361	1.936 2.007
		1,491	7,731 7,721	3,974 4,437	2.787 2.761
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VISCOUS PLUME ROUNDARY COMPOINATES, SET 3

PUNTN	Y	ta Cara	YAPEALL	R/RFYTT
''O •	(INCHES)	(TNCHES)		
11	ପ୍ରମ୍ବର	· APA	0.000	<b>9.</b> 409
11	ለ <b>ም</b> ላ	4.358	2 <b>.</b> መዘን	3.881
11	n • ~ Øa	F.34R	". (B)	Ø.994
11	4.45	0.3A3	9.129	1.794
11	9.1 <b>03</b>	2.422	P. 29A	1.207
11	4.193	2.474	Ø.551	1.354
11	4,282	7.524	2.807	1.487
11	e.533	7.616	1.523	1.761
11	9.671	7.457	1.916	1.876
11	9.797	7 ARS	2.274	1.956
11	1.164	~,75°	3,725	2.179
11	1.342	4.780	3,834	2,227

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VISCOUS PLUME POUNDARY COORDINATES, SET 3

PHOTO	y	R	A\utali	R/RFXIT	$A^{\dagger}\lambda$
۴0.	(lyChbe)	(INCHES)			417
43	м <b>, сере</b>	0.223	ው <b>.</b> ሶይል	Ø.00 <b>0</b>	
13	" . "A @ P	1,340	0.407	3.854	
13	<b>ሚ ጣል</b>	ጣልጞ፟፟፟፟፟ች	e and	1.218	
13	0.031	17 <b>. 4</b> (4/2	n.689	1,149	
1.3	··· · · · · · · · · · · · · · · · · ·	4.455	9.22°	1.300	
13	7,137	<i>ក</i> ្នុកក្នុង	7.391	1.443	
43	0.214	a .572	0.611	1,634	
13	0.301	4.643	C.867	1.836	
13	0.394	7.717	1,127	2,949	
13	a 52a	7.784	1.485	2.227	
13	₽.6 <b>5</b> 1	4.85%	1.861	2.438	
13	0,802	9.027	2.292	2.647	
13	0.964	1.074	2.754	2.867	
1 3	1.095	1.060	3.130	3.030	
13	1.251	1.119	3.574	3.196	
13	1.419	1.179	4.054	3.368	
13	1.770	1.298	5.057	3.710	
13	1.737	1.337	5.522	3.819	
13	2.582	1.380	5.048	3,943	
13	2.451	1.465	7.004	4.186	
13	2.K3m	1.595	7.513	4.299	
13	2.823	1.547	B. 265	4.421	
13	3.144	1.589	8.498	4.541	
13	3,295	1.629	0.414	4.650	
13	7.534	1.663	10.09A	4.752	

# VISCOUS PLUME HOUNDARY COOPDINATES, SET 3.

PHOTO	<b>v</b>	p	Y/RFY[T	R/RFXIT
10.	(InCHEs)	CINCHEST		
15	0.000	* <b>.</b> ###	3 " WNu	0.300
15	04.400°	1.347	0.000	3.848
15	ଜ ଅଷ୍ଡ	<b>%.353</b>	ଅ.ଅପ୍ଟ	1.009
15	m.736	0.385	0.102	1.190
15	a.a9#	a.426	0.25A	1.216
15	M.153	0,474	C.438	1.354
15	n.242	0.525	0.691	1.500
15	9.300	Ø.671	P.858	1.632
15	4,363	7.A17	1.738	1,763
15	0.454	4.665	1.294	1.971
15	M.541	a.799	1.545	2.025
.15	M.63A	₩.762	1.823	2,176
15	0.744	a 819	2.125	2.341
15	0.884	A . A 7 7	2.525	2.505
15	1,021	n.920	2,916	2.630
15	1.15/	a 955	3.285	2.727
15	1.281	e 995	3.459	2.843
15	1.400	1.036	4.924	2.959
15	1.453	1.110	4.724	3.172
15	1.800	1.144	5.144	3.270
15	1,941	1.176	5.546	3,359
15	2.080	1.203	5.044	3.437
15	2.346	1.256	4.702	3.588
15	2.524	1.275	7,211	3.643

VISCOUS PLUME POHNDARY COORDINATES, SET 3

OTOUR	Y	<b>=</b>	ANGAIL	R/RFXIT
MD.	(INCHES)	(INCHES)		
19	Ø . 0 Ø Ø	ଦ.ଜାହାଦ	6.000	0.000
19	и, одо	1.369	% . CV %	3,912
19	a . a g a	0.353	U MOUTH	1,009
19	0.044	я 390	7.124	1.140
19	14.137	Ø.451	0.391	1.289
19	7 222	Ø 489	# 651	1.398
19	7.717	p.514	C.891	1,469
19	2.405	9.54A	1.158	1.567
19	и <b>.</b> 5 <b>19</b>	0.573	1.483	1,638
19	451	0.604	1.854	1.725
19	0.760	n .422	2.172	1.778
	1.006	Ø . F61	2.874	1.887
19 19	1.76	9 A63	3.281	1.894
19	1.267	4.469	3.691	1,912
10	1.494	0.691	4.012	1,974

# MISCOUS PLUME POPMBARY COORDINATES. SET 3

PHOTO	Y	A	Y/PFYIT	R/REXIT
٠٥.	(INCHES)	(TMPHES)		
71	രംആദ	a ppa	e.###	A. 44A
71	0.000	1.359	ଡ଼ ଅନ୍ତ	3.879
21	<b>୯.୯୬</b> ୯	6.356	<b>የ የ</b> የም	1,616
21	0.047	P 414	₽.136	1.171
21	p.999	₹ <b>,457</b>	Ø.25 <sup>2</sup>	1.305
21	7,152	<b>0.509</b>	P. 436	1,454
21	0.227	<i>⊎</i> ,560	0.649	1.699
21	0.320	M. 611	7.914	1.745
21	0.524	0.694	1,494	1.983
21	ø 629	0.735	1.796	2.103
71	729	a.79a	2.083	2.258
21	# A85	M . 834	2.527	2.383
21	1.065	4.R87	3.043	2.534
21	1.198	m. 934	3,423	2.667
21	1.474	1 /14	4,212	2,896
21	1.637	1.036	4.677	2.961
21	1.768	1.767	5.453	3.028
21	1.015	1.089	5.470	3.085
21	2.960	1.102	5.886	3,148
21	2,231	1.126	6.375	3.216
21	2,353	1.144	6,722	3,270

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VISCOUS FLUME BOUNDARY COMPDINATES. SET 3

PHOTO	Y	R	X/REYIT	R/RFXIT	()
٠٥.	(luches)	(TNCHES)			U.
23	a <b>,</b> a துக	ក់្ទាល់ទ	ଫ <b>୍ଲ</b> ଫ୍ଡ	0.000	
23	n 000	1.372	ଫ୍ୁଗଡ଼ଫ	3,921	
23	ଜ୍ଞନୁଷ	0.342	<b>୍ଜ ପ୍ର</b> ମ	0,978	
23	n.241	4.386	0.118	1.103	
23	A.11A	0.430	0.313	1.229	
23	n 175	462	2.500	1.320	
23	0.249	₽.4R4	0.711	1.383	
23	M.318	0.513	0.909	1,465	
23	7 410	7.541	1.171	1.547	
23	9.496	7,566	1.419	1.618	
23	0.591	2, 56A	1.480	1.680	
23	7.720	9 <b>595</b>	2.001	1.700	
23	7 893	0.664	2.294	1.725	
23	9.98A	0.616	2.814	1.761	
23	1,130	489	3.228	1.798	
23	1.255	9.633	3,585	1.823	
23	1,357	6,644	3,877	1.841	
7.0	7 6 17 3 7		to the second		

# VISCOUS PLUME ROUNDARY COORDINATES. SET 3

PHOTO	¥	R	X/PEYIT	R/REXIT
vn.	(INCHES)	(INCHES)		
25	4.400	<b>п.аи</b> я	9.290	ଖ.ଜନ୍ମ
25	a . " 010	1.361	e.e02	3,490
25	ମ ୍ଳ ମହ	M.338	Ø.000	0,967
25	0,437	и дво	₾ <b>.</b> 107	1.111
25	0.097	4,439	Ø.267	1.254
2 <b>5</b>	m.167	A.476	V.47P	1.360
25	0.242	9,535	0.691	1.529
25	0.310	ø.581	Ø.887	1.660
25	9.385	4.420	1.100	1.796
25	0.470	a, 475	1.343	1.927
25	M.566	A.728	1.616	2.081
25	Ø.772	7 AZA	2.205	2,365
25	0.883	M.RGR	2.523	2.481
25	1.011	A . 999	2.890	2,599
25	1.148	0.055	3.281	2.730
25	1.499	1.045	4.257	2.985
25	1.883	1.163	5.379	3.323
25	2.455	1.247	7.015	3.563
25	2.763	1.270	`7,A93	3,628
25	2.960	1.288	A,456	3,681
25	3.135	1.284	8.954	3,670
25	3.308	1.282	9.452	3.66 <b>3</b>
25	3.451	1,277	9.861	3.648

VISCOUS PLUME ROUNDARY COORDINATES. SET 3

PHOTO	<b>v</b>	a	Y/REYIT	R/RFXIT
510 <b>.</b>	(INCHES)	(INCHES)		
27	ମା କଥାଲ	<i>ጠ</i> . ወጠጣ	ଫ.ଜାହାଡ	0.000
<i>2</i> 7	0.7Q10	1.367	P.007	3.886
27	ଳ ୍ୟପ୍ତ	Ø.341	P.00P	0.974
27	<b>ল</b> ্ল4ল	<b>4.391</b>	Ø.116	1,116
27	0.112	M,456	P.32P	1.303
27	0.177	Ø.515	0.507	1,472
27	M.262	Ø.574	0.749	1.640
<b>97</b>	ø.352	P.636	1.007	1.818
27	0,502	0.735	1.434	2.101
27	Ø.641	0. <b>P17</b>	1,832	2,334
<b>ク</b> ブ	9.772	M.877	2.205	2.505
27	ø,897	a,935	2.563	2,672
27	1.030	<b>∅.98</b> 3	2.943	2.807
27	1.177	1.038	3.363	2,965
<sup>2</sup> 7	1.37A	1.103	3.937	3,152
27	1.544	1.155	4.412	3.371
2 <b>7</b>	1.693	1.193	4.837	3.410
2 <b>7</b>	1.858	1.244	5.30A	3,554
2 <b>7</b>	2.936	1.283	5.817	3.665
27	2.212	1.321	6.320	3.774
27	2,388	1.370	6.822	3,914
27	2.593	1.404	7.409	4.919
<b>ップ</b>	2.781	1.424	7.947	4.268
27	2,954	1.467	8.442	4.190
27	3.166	1.484	9.045	4,246
27	3,352	1.505	9.576	4,299
<b>ク</b> ブ	3,551	1,514	10.145	4.332
27	3.731	1.530	10.661	4.370

MISCOUS PLUME POUNDARY COORDINATES. SET 3

PHOTO	٧	Ą	Y/PFYIT	R/RFXIT
· O.	(INCHES)	(INCHES)		
29	ማ <b>.</b> ማ <b>ማ</b> ም	1.358	0.082	3.879
29	ச <b>்சுறுவ</b>	0.372	C. C. O. O.	1.063
29	1.7116	9.429	€ .047	1,225
29	7.047	m.499	0.136	1,425
29	7.090	0.563	0.258	1.609
29	1,165	M. 643	0.471	1.836
29	n 23n	1.725	C.458	2,072
29	2.296	a.Ant	Ø.845	2.290
29	M.36A	7.879	1.045	2,512
29	0.444	0.962	1.269	2.750
29	9.527	1.046	1.505	2.990
29	# 623	1.137	1.781	3.248
29	0.713	1.215	2.03E	3,472
29	0.813	1.296	2.323	3.703
29	9.916	1.387	2.516	3.943
29	1.018	1.449	2.916	4,139
29	1 - 102	1.517	3.150	4.335
29	1.200	1,586	3.430	4.532
29	1.302	1.66%	3.719	4.744
29	1.426	1.768	4.074	5.053
29	1.547	1.831	4.421	5.230
29	1.463	1.890	4.75	5.399
29	1.780	1.050	5.08A	5.570
2 <b>9</b>	1.893	2.017	5.46A	5.764
29	1.989	2.074	5.482	5.926
29	2.101	2.177	6.002	6,220
29	2.222	2,242	K.348	6.406
29	2.332	2.304	6.662	6.5%4
29	2.440	2,347	6.971	6.706
29	2.550	2.41	7.284	6.886
29	2,68A	2.463	7.48#	7.038

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VISCOUS PLUME POHNDARY COOPDINATES. SET 3

PHNTO	Y	R	Y/PEYIT	R/RFYIT
MO.	(Indnes)	(JUCHES)	•	
31	a aya	0.030	୯.୩୧୯	ଉ.ଡନ୍ତ
₹1	rs.orpan	1,359	0.000	3.883
, <b>3 1</b>	ក.្ពសូក	P. 303	2.0%2	1,123
31	0.023	4.46R	0.064	1,338
31	0.751	4.546	0.147	1.560
₹1	7.29A	°.615	9,254	1,758
.R 1	0.129	2.671	P.369	1.918
.* 1	0.175	3,729	0.507	2.056
31	7,211	0.793	9.622	2,265
31	0.257	4.854	0.734	2,441
31	11.285	0,038	Ø.814	2.681
31	0.362	1,012	1.034	2.892
31	4.427	1 088	1.220	3.110
31	14.49A	1.155	1.414	3.301
*1	7.575	1 248	1.643	3,565
٦ j	R.648	1.337	1.852	3.819
31	9,73A	1.418	2.139	4.752
31	9.826	1.497	2.361	4,277
<sup>3</sup> 1	0.004	1.57%	2.583	4.486
<sup>7</sup> 1	7.972	1.648	2.779	4.708
31	1.450	1.724	3 .001	4.933
31	1.150	1 904	3,285	5,155
31	1.212	1.879	3.463	5.368
71	1.339	1.964	3.739	5,610
31	1.401	2.031	4.003	5.802
31	1.486	2.1/19	4.246	6.026
.31	1.550	2.484	4,455	6.240
<b>3</b> 1	1.647	2.261	4.704	6.460
31	1.744	2.326	4.984	6.646
31	1.835	2.4MR	5.241	6.880
71	1.043	2.479	5,553	7.0P4
31	2.040	2.554	5.020	7.298
₹-	2.133	2.429	A . 1195	7.511
31	2.226	2,491	6.362	7.689
۲1	2.328	2.766	A.593	7.992
<b>4</b>	2.375	2.824	6.784	8.969

VISCOUS DELIME DOUNDARY COOPDINATES. SET 3

PHOTO	¥	R	Y/REYIT	R/RFXIT
۸٥.	(INCHES)	(TNCHES)		
7.3	។.្ភាព	a, non	4,484	ଓ
33	ศ.วดก	1,351	a aga	3,861
*3	M . MAP	PAVA	ଟ ନ୍ତ୍ର	1,160
33	× .289	æ.476	0.027	1.360
33	2.23	n 529	0.464	1.512
33	0.247	<i>េ</i> ្តីគឺនិ	0.136	1.665
33	0.081	# A35	9.231	1.814
33	0.103	7.494	0.294	1,983
73	0.128	a.753	9.367	2,152
33	7.166	Ø .A13	9.473	2.323
33	9.194	W. 867	9.553	2,478
33	0.233	4.054	7.667	2,630
33	0.263	<b>α οθο</b>	9.751	2.825
*3	0.312	1 048	7.891	2.994
33	0.345	1.114	0.987	3,190
73	0,377	1.174	1.078	3.343
73	2.414	1.236	1.183	3.532
33	0.451	1,295	1.280	3,609
*3	0.512	1.35P	1.463	3.879
. 3	0.573	1.416	1.638	4.446
33	4.617	1.574	1.763	4.297
33	8.685	1.577	1.954	4.506
33	0.738	1.664	2.187	4.755
× 3	0.407	1.736	2.305	4.959
33	7.86B	1.793	2.481	5.121
33	7.997	1.842	2.592	5,264
×3	0.956	1.901	2.732	5.430
73	1.005	1,95m	2.872	5.573
73	1.943	2.445	2.979	5.728
. 3 3	1.995	2.057	3.137	5.877
33	1.155	2.122	3.301	6.064
33	1.220	2.194	3,485	6.268
73	1.295	2.253	3.499	6,437
7.3	1.357	2.31%	3.877	6.600
33	1,422	2.367	4,063	6,764
33	1.502	2.437	4.292	6.962
₹3	1.563	2.504	4.466	7.155
33	1,631	2 55A	4,661	7.309
33	1.499	2.616	4,855	7,475
33	1,762	2.667	5.035	7.620
33	1.828	2.729	5,224	7.798
-	• • • • • • • • • • • • • • • • • • • •	<b>-</b>	-	-

FET 3.

PHOTO	<b>v</b>	þ	X/REYIT	R/RFXIT
• 0.	(Inches)	(INCHES)		
t <b>s</b>	୯,୯୬୩	9.35	о <b>. » р</b> э	1.200
*6	4,227	2 . A14	Ø,647	2.315
3.6	9.535	1.141	. 1.527	3.260
16	<b>9.78</b> 4	1.79n	2,237	3,990
₹6	1.553	1.544	3.707	4.702
₹6	1,429	1.77	4.987	5.362
46	1.720	2.466	4.937	5.902
.K.A	2,744	2.324	5.847	6.645
7.6	2.393	2.475	6.837	7.072
16	2.74"	2.447	7.827	7.562
<b>5</b> 6	7,149	2.219	A . 707	8.752
75	<b>ፈ</b> ጀጀክ	2.053	9.480	8.437

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#### VISCOUS PLUME ROBADAN COORDINATES. SET 4

P-OT(I	٧	R	Y/REVIT	R/RFXTT
`n.	(INCHES)	(INCHES)		
<b>6</b>	4.000	0.35%	P. POB	1.000
6	4.197	0.404	Ø.562	1.725
h 6	n.454	A.737	1.297	2.105
٠,6	1.764	H _ R6.7	2.190	2,305
4.6	1.138	d 859	3.252	2.455
8.6	1.452	4,808	4.435	2.565
<sup>5.</sup> 6	1.464	9.913	5,612	2.677
E A	2.443	a 899	4,980	2.579
56	2.831	0.858	.8.090	2,452
-6	7.248	n.823	9.280	2.352
FA	3,605	7.757	10.300	2,162
≈6	7 05P	0.716	11.310	2.045
F6	4.264	0.629	12.152	1.797

4 . .

VISCOUS PLUME PROMINARY CORPRINATES, SET 4

., 1	At 1989 - Self trus	view distance strate	CONTRACTOR SET 4		1
PUNTS	<b>Y</b>	la .	X/PEYIT	RZREXIT	( ] )
,,U.*	(InCree)	(THPHES)			
<b>4</b> A	ଅନ୍ତର୍ଶ	0.0V1	a . a a a	9,309	
<b>馬賽</b>	0.000	1.367	P. #8#	3.906	
5 g	ଅନୁ ଅନ୍ତ	a 152	e _ 40 a	1.005	
пġ	4.42	1.466	2.127	1.331	
<b>58</b>	0.434	9 A 1/2 R	W.382	1,736	
h.e.	7.242	9.723	M. 491	2,265	
5ġ	3,364	0. P33	1.040	2.381	
5 H	# A29	3,079	1,796	2.794	
ւց	0.81B	1.846	2.338	2.998	
6. <u>8</u>	1,015	1.140	2.899	3.256	
s: p	1.179	1,225	3.372	3.501	
<b>5.8</b>	1,531	1.795	4.375	3.986	
F 8	1.736	1.490	4.961	4.257	
E. 🛱	1.957	1.575	5,593	4,499	
E 8	2,433	1.733	4,051	4,953	

VISCOUS FLUME BOUNDARY COORDINATES. SET 4

PHOTO	¥	P	V/PEVIT	R/RFXIT
Mn.	(InCres)	(TMCHES)		
4 W	10 . 15 Grin	3,000	4.000	ମ.ନେମ୍ୟ
F (7	ch • 14 (5) th	1.355	0.00°	3,872
+ 0	a . · Na	364	0.000	1,046
	· . :37	7.46F	a 1 47	1.331
4 Q1	4.115	7.594	л.329	1.698
* "	0.233	7.714	V.667	2.041
40	A 389	P.824	1.111	2,354
40	p.554	12.926	1 . 69	2.645
40 40	2.737	4 31 5	2.105	2.971
+ B	° °21	1.104	2.632	3.154
	1. 96	1.211	3.132	3.441
. 64		1.324	3.75	3.783
46	1,312	1.435	4.461	4.099
69	1.540		5.139	4,372
40	1,799	1.530	5 . 80A	4.666
6.8	2.032	1.633		4.926
<b>≜</b> Ø	2,262	1.724	A,462	7,720

VISCOUS PLUME BOUNDARY COOPDINATES, SET 4

PriCTO	<b>v</b>	<b>A</b>	Y/REYIT	R/REXIT
' n.	(Indaka)	CENTHER)		
17	4.288	9,2180	0.040	и. <i>пра</i>
12	2 . M. (A. (A.	1,360	0.000	3.886
12	0.000	^ 77G	0.000	1.083
42	e jago	4.464	n.n91	1,325
4.5	0.117	4.619	0.336	1.767
42	7,247	7.74!	4,685	2,114
12	9.359	n 824	1.025	2.354
6.2	0.517	M. 914	1.476	2.612
4.2	7.489	1.004	1,967	2.867
+ 2	7.871	1.103	2.487	3.152
4· 2	1.068	1.203	3.052	3.428
٧5	1.240	1.315	3.685	3,757
42	1,526	1.433	4.359	4,095
£2	1.800	1.554	5.168	4.452
4.5	2.030	1.655	5.826	4.728
٠ 5	2.509	1.873	7.169	5.353
۸Ž	2.746	1.949	7.844	5.626
43	3.297	2.0A1	8,591	5,946
42	3.212	2.185	9.178	6.242

"ISCOUS PLIME BOUNDARY COORDINATES. SET 4

PHOTO	Y	ę	Y/#EVIT	R/RFXIT
٠.٥٠	(InCritic)	(INCHES)		
72	a . e ye	6.200	୍ର , ଜାହ୍ୟ	0.000
72	0.00B	1,355	୯.ଉଟ୍ଡ	3.872
72	0.000	7.384	៤. ស្ន	1,096
12	7 . 7 4 A	₽ <b>,48</b> 9	0.116	1.396
72	0.27B	2.572	7.222	1.634
72	0.153	7.663	P.438	1,894
72	0.263	o <b>.75</b> ∞	0.751	2.143
72	0.393	4.620	1.123	2.370
72	4,556	4.014	1.589	2,616
72	r.708	9. <b>993</b>	2.023	2.836
72	P. 919	1.124	2.625	3.154
72	1,495	1.193	3.130	3.408
72	1.284	1.279	3.670	3.654
72	1.701	1.440	4.861	4.115
72	1 H91	1.519	5.402	4.341
72	2.792	1.593	5.977	4.552
72	2.297	1.671	6,564	4,775
72	2,497	1.730	7.133	4.944
72	2.64R	1.780	7,567	5.086

# VICENHE PLUME COMMARY CORRESPONDED ATES. SET 4

PHOTO	<b>v</b>	R	X/REYIT	R/RFXIT
·n.	(I.Gnee)	CINCHEST		
74	m.ean	er . mar-	er. renc	9.000
74	0,000	1.365	P. P. W. P.	3.971
74	n (40/0	A 483	୯ୁ୭୬୯	1.094
74	B.078	0.485	0.222	1,387
74	0.159	0.573	0.453	1.638
74	a 25A	0.860	7.738	1.885
74	0.377	722	1.074	2.063
74	0.531	<b>79</b> 9	1.516	2.258
74	0 B03	4.929	2.294	2.627
7.4	1.030	~ 074	2.943	2.790
74	1.192	1.730	3.405	2.968
74	1.566	1,133	4.479	3,236
74	1.733	1.183	4.95%	3.379
	1.911	1.224	5,459	3,497
74 74	7 • 41 T 2 • 45 A	1.254	5.875	3.590

#### VISCOUS PLUME POUNDARY COORDINATES. SET 4

PHOTO	•	R	Y/PEVIT	R/REXIT
** <b>(*)</b>	(INCHES)	(TACHES)		
76	n. #44	ሁ <u>.</u> ተወላ	P. 000	0.000
76	ዎ•ሮ∰ሟ	1.361	0.000	3.890
76	<b>ም. ጣጠ</b> ሮ	4.373	P. MBP	1.065
76	a.e37	7.454	7.184	1.298
76	m.e7m	a.520	7.297	1.485
76	#.133	n 591	0.380	1.689
76	m.220	m.657	0.429	1.876
76	M.314	0.735	0.89A	2.191
76	7.444	M. 815	1.269	2.330
76	9.572	<b>୍ନ୍ନ</b> ର୍ବ	1.634	2.541
76	n. 484	1.016	2.532	2.993
76	1.023	1.076	2.92%	3.074
76	1,195	1.139	3,414	3.228
76	1.350	1.195	7.883	3.414
76	1.677	1.320	4.79m	3.772
76	1.847	1.372	5.277	3.921
76	1.985	1.425	5.673	4.072

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VISCOUS PLUME ROUNDARY COORDINATES. SET 4

PHOTE	¥	<b>Q</b>	<b>Y/FEYIT</b>	RAREXIT
"0"	(1HCHES)	CTNOHES		
h 5	7.200	<b>் செ</b> ச்ச	0.000	0.900
л <b>2</b>	$\sigma_{\bullet} \circ \sigma_{\bullet}$	1.357	0.000	3.877
8.2	0.000	15.36A	୯ୁଖ୍ୟାନ	1,051
P 2	7.020	0.443	0.080	1.267
۴2	0.254	0.513	@.156	1,467
۶ž	m 0.99	ก ุร9ัห	0,282	1.707
۶2	0.170	φ. 49 <u>1</u>	2.485	1.974
£ 2	0.230	0.787	Ø.456	2.247
F 2	0.324	# AHR	M.925	2.530
۶.5	0.436	Ø.99A	1.245	2.845
<sup>8</sup> 2	0.550	1.092	1.572	3.121
۶ غ	9.647	1,193	1.849	3.408
₽ <b>2</b>	0.867	1.351	2.47 <sup>A</sup>	3.861
82	6,983	1.425	2.807	4.270
μ <b>2</b>	1.11"	1.495	3.172	4.270
£ 5	1.207	1,593	3.448	4,550
8 <u>5</u>	1,341	1.67A	3,832	4,795
٤٠2	1.475	1.761	4.215	5.033

VIRCOUS PLUME BOUNDARY COMPRIANATES, SET 4

PHOTO	¥	4	Y/PEVIT	R/RFXIT
**O.	(Inches)	CINCHESI		
ts A	a 20A	3 PA 1	C. 490	0.408
H <b>4</b>	0.700	1.372	<i>ያ</i> •	3.921
5. 4	7. AND		0.020	1.076
F- 4	ን . '^ Ø ቦ	1.377	v.#64	1.271
₽ 4	0.483			1.534
F 4	<b>≈.48</b> ₽	4,537	9.251	1.769
۶4	<b>″.17</b> ₽	", £13	0,500 554	2.716
P 4	m,263	# <b>.7</b> 96	₽.751	
<b># 4</b>	n.35P	#.78 <sup>5</sup>	1.023	2.243
8.4	2,461	m 961	1.318	2.461
1.4	W.582	9.916	1.663	2.619
	9,706	0,070	2.01A	2.779
F. 4	•	1.017	2.345	2.405
F. 4	2.835	1.777	2.745	3,265
۶. 4	n.961		3.142	3.219
4.4	1.102	1.127	3,568	3.379
P 4	1.249	1,183		3,514
₽4	1,380	1.230	7.06#	3.717
řΔ	1.529	4.301	4.36P	3.///

VISCOUR PLIME ROHNDARY COORDINATES, SET 4

PHOTO	<b>~</b>	R	X/PEXIT	R/RFXIT
<b>^0.</b>	(InChEd)	(TMCHES)		
6۵	ு அவிம	** <b>,</b> (*) (*)	0.000	ପ.ମଣ୍ଡ
86	a * 4 WW	1.359	a.apa	3.879
۶6	7.000	3.384	Ø . ወ <b>ል</b> 2	1,896
r 6	n.#33	7,483	a a 93	1.3Ag
F 6	m. 076	4.566	H.21A	1.618
H6	9,132	C 643	P.37A	1,836
£ 6	0.217	0.701	0.624	2.003
E 6	2.283	01.760	n.809	2.198
P 6	0.357	4 P37	1 727	2.381
₽6	7.439	а нна	1.254	2.536
P 6	0.531	A.93ª	1.518	2.681
۸6	4.435	997	1.814	2.850
6.6	a.774	1.246	2.212	2.988
H6	4.879	1.1194	2.507	
яĕ	1.101	1.211	· -	3.136
H 6		· -	3.145	3,459
	1.235	1.273	3.528	3.637
96	1,374	1.34	3 <b>.93</b> %	3.817
÷6	1.501	1.411	4.288	4.030
∺6	1 • 631	1.473	4.450	4.278

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VISCOUS BEIME POHNNARY COMPOINATES. SET 4

PLOTO	У	<b>p</b>	V/UFYIT	R/RFXIT
'n,	(Indres)	(   MICHES)		
⊬ <b>A</b>	7 <b>.</b> 248	4.4 <i>00</i>	e, mpe	ଡା.ଓଡ଼ଡ
0 8	000	1,363	(* <b>.</b> m Ø Ø	3.894
6.8	7.000	<b>%,386</b>	જ ુ ભાગુલ	1.173
F <b>8</b>	7.438	ઝ.48ં1	6.463	1.316
68	2.103	9.547	#.29A	1.563
βě	4 194	9.435	<b>ர</b> ்ந்தன	1,814
e A	7,285	4.724	Ø.814	2.056
e <b>Ř</b>	4.387	<b>∂.797</b>	1.195	2,276
δ <b>Β</b> ∴	7 515	9,861	1.472	2,461
6 B	4.649	0.923	1.834	2.636
P A	2.797	9.984	2.276	2.812
e g	1.102	1.117	3.148	3.192
FA	1.339	1.165	3.824	3.385
e <b>p</b>	1.530	1.245	4.37#	3.557
F 8	1.750	1,319	4,099	3.768

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VISCOUS PLUME ROUNDARY COORDINATES, SET 4

PLOTO	Y	<b>A</b>	Y/RFYIT	R/REXIT	
`n.	(INCHES)	(TMCHES)			
90	a * 1. Wa	3 <b>. 6</b> 00	4.1800	ଦ.ଜଗଡ଼	
9	(A ) (A (A (A)	1,362	ଟ.ଜାନୁନ	3.492	
90	ମ ଦେଶ ଦ	3,364	ு	1.848	
c p	w.n31	4.424	p.#89	1.216	
90	M, M6A	13.48 <sup>4</sup>	P.196	1.372	
00	7.137	0.532	16.391	1,520	
90	0.219	n,600	M. A25	1.714	
90	0.30A	4.673	0.88¢	1.923	
υV	9°.399	a.745	1,140	2,129	
c 54	9.423	0.802	1.494	2.292	
O (5)	<b>か。65つ</b>	4.852	1.863	2.434	
99	11 8210	4 95	2.285	2,559	
ဝေ့န	្រុំមន្តគ	a 936	2.672	2.674	
40	1.093	#.OH7	3.123	2.821	
00	1.252	1.927	3,577	2,934	
ဝပ္	1.645	1.102	4.586	3.150	
47	1.799	1.168	5.139	3.337	
C N	1.964	1.217	5.617	3.477	
G W	2.141	1,247	4.117	3.677	
Ca	2.315	1.372	6,615	3.919	
G Ø	2,465	1.459	7.042	4,168	

#### VISCOUS PLUME POUNDARY COORDINATES. SET 5

PHOTO	Y	R	X/REXIT	R/RFXIT
١0.	(INCHES)	(INCHES)		
2	п. пра	1,358	0.002	3,881
2	2.9 <b>9</b> 0	A.457	Ø.000	1,307
2	0.149	0.677	9.427	1.934
2	Ø.520	0.RH7	1,485	2,534
2	M.962	1,143	2.747	3.265
2	1,519	1.411	4.339	4.932
5	1.071	1.474	5.433	4,788
	2,465	1,918	7.044	5,479
5 5	3,428	2,321	9.794	6,631
2	3.959	2.537	11.312	7,249
	4,330	2.740	12,397	7.829
5 5	4,771	2.924	13,433	8,360
2	5.487	3.260	15.678	9.314

VISCOUS PLUME POUNDARY COORDINATES. SET 5

PHOTO	¥	R	X/PEYIT	R/REXIT
10.	(Inchée)	(INCHES)	. •	
4	M . MAO	1.366	લ. અભ્ય	3.903
4	ማ.√ማው	0.478	9.000	1.367
4	4.113	9.440	0.322	1.827
4	7.352	W.814	1.007	2,325
4	0.649	0.963	1.832	2.752
4	9.98p	1.123	2.799	3.210
4	1.313	1.295	3.752	3.701
4	2.020	1.631	5.771	4,659
4	2.395	1.811	6.844	5,175
4	2.754	1.995	7.869	5.699
. 4	3.151	2.196	9.003	6.275
4	3,485	2.305	9.954	6.586
4	3,930	2.479	11.232	7.082
4	4.335	2.648	12.386	7,564
4	4,740	2.847	13,542	8,136
4	5.151	2.981	14,718	8.518
4	5,545	3.143	15.842	8.980

VISCOUS PLUME POUNDARY COOPDINATES, SET 5

PHOTO	¥	R	X\bEA11	R/RFX1T
MO.	(INCHES)	(INCHES)		
6	a, 280	1.350	a.mg0	3.857
6	# # # # # # # # # # # # # # # # # # #	4.460	0.00%	1.314
	4,145	9.A39	P.416	1,825
6	7.380	766	1.065	2.187
6		R.862	1.056	2.463
6	0.685		2.914	2,970
6	1.921	1.030	3.930	3,521
6	1,376	1.232		3,988
6	1.701	1.396	4.R61	4,479
6	2,041	1,564	5,031	5.026
6	2.421	1.759	6.918	
6	2.785	1.902	7.95A	5.435
6	3,089	2.M5A	8,827	5.875
6	3,555	2.222	10.156	6.348
6	3.868	2.381	11.752	6.804
6	4,727	2,543	12.063	7.264
6	4.54%	2.697	12.979	7.707
6	5,306	2.981	15.160	8.518

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VISCOUS PLUME ROUNDARY COMPOINATES. SET 5

PHOTO	¥	R	Y/REYIT	R/REXIT
Mn.	(InChEd)	(INCHES)	·	
8	ச. சதக	1,379	0.000	3,939
8	P . P (A C)	0.457	0.000	1.305
е	0.136	M. 635	0.389	1.814
8	9.367	0.790	1.049	2,258
8	4.706	0.955	2,018	2.730
8	1.079	1.104	3,783	3,154
ð	1,475	1,285	4.215	3.672
A	1.897	1.474	5,410	4,212
8	2.728	1.850	7.796	5,310
8	3.165	2.007	9,043	5.735
8	7,540	2,147	17.141	6,135
8	3,946	2.301	11.274	6,573
8	4.320	2.435	12.344	6.958
8	4.612	2.555	13.177	7.300
8	4.960	2.489	14,171	7.682
8	5.203	2.797	14.866	7.991

VISCOUS PLUME POUNDARY COORDINATES. SET 5

PHOTO	¥	R	X/PEY1T	R/REXIT
.0.	(IMCHES)	(INCHES)	, -	
10	ଫ.୯ମ୍ଫ	1.36R	r.002	3.908
10	0.000	4.45R	ଫ.୍ଡାଡ	1.309
10	0.13N	707	0.371	2,021
10	9.441	2 002	1.260	2,576
10	P. R44	1.089	2.412	3,112
10	1,274	1.322	3.439	3,772
10	2.110	1.75//	6.028	4,999
16	2.509	1.953	7.169	5,579
10	2.928	2.129	8.365	6.084
10	3,281	2.293	9.374	6,551
10	7.420	2.47P	10.376	7.080
10	3,952	2,590	11.292	7.427
10	4.335	2.721	12.386	7,776
10	4.763	2 A 9 A	13.68B	8.280
10	5,132	7 740	14.662	8.687
10	5,55A	7.206	15.873	9.160

# VISCOUS DELINE BUINDARY COOPSINATES, SET 5

PUMTO	¥	p	Y/0EYIT	R/RFXIT
·n.	(Inchie)	CINCHESI		
15	ത. പുക	1.369	ଉ.ଫ୍ୟାନ	3.910
15	0.780	0.473	ତ୍ରୁ ମହାନ	1.351
15	9,121	7.697	9.347	1.992
15	0.396	1.871	1.131	2.496
15	2,725	1.054	2.772	3.041
15	1.486	1,267	3,103	3,619
15	1.463	1.435	4,179	4.099
15	1 • P 3 1	1.643	5.233	4.695
15	2,153	1.79R	4.151	5.137
15	2.514	1.967	7.194	5,619
15	2.548	2.147	P. 251	6.133
15	3.459	2,539	10.454	7.253
15	4.752	D. 685	11.577	7.671
15	4,453	2 A53	12.724	8.151
15	4.P38	2.094	13.822	8.554
45	5.268	3.177	15.051	9.076
15	5 6/18	3 337	16.022	9,514

## VISCOUS PLUME POUNDARY COORDINATES, SET 5

PUNTO	•	¥	X/PEYIT	RZREXIT
· n.	(Ir Ched)	(TUPHES)		
17	2 . " Q 4	1.354	ଜ୍ଜନ୍ମ	3,868
17	4.430	1.434	9.030	1.240
17	" 171	4.464	7.489	1.896
17	r 479	n 001	1.369	2,832
17	m.863	1.309	2,465	3.739
17	1,220	1,557	3.485	4,448
17	1.665	1.783	4.757	5.795
17	2,781	1.032	5.946	5.693
17	2,543	2,192	7.264	6,262
17	2,977	2.314	8.507	6.611
17	3.370	2.431	9.434	6.946

## VISCOUS PLUME ROHNDARY COOPDINATES. SET 5

PROTO	¥	<b>P</b>	Y/PEYIT	R/RFXIT
MO.	(INCHES)	(INCHES)		
25	<b>៤.៤១</b> ០	0.350	0.000	1.208
22	n . 1 4 m	0.723	2.400	2.065
22	0.485	1.031	1.385	2.945
22	9,786	1.287	2.245	3,665
2.5	1.158	1.542	3.310	4.405
22	2,624	2.224	7.497	6.355
22	3.118	2.391	8.907	6.832
22	3,554	2.486	10.155	7.102
22	4.043	2.581	11.552	7.375
22	4.398	2.636	12.565	7,532

# VISCOUS PLUME POUNDARY COMPDINATES. SET 5

PHOTO	у	Ħ	Y/REVIT	P/REXIT
MD.	(INCHES)	(TNOHES)		
24	જ • ୯୩୯	1.339	7.020	3.826
24	m. Mgm	9.424	ଫ୍ରମ୍ଭ	1.211
24	n 194	0.622	0.273	1,778
24	0.325	C AZA	7.020	2.365
24	0.633	1 . % 3 9	1.809	2.970
24	1,705	1.27@	2,872	3,628
24	1.379	1.484	3,039	4.241
24	1.810	1.639	5.170	4.684
24	2,189	1,759	6,255	5,026
24	2.564	1.860	7.324	5,315
	2.949	1.918	A.427	5,479
24	•	1.08B	9.761	5,679
24	3,416		10.934	5,768
24	3.º27	2.019		
24	4.157	2.060	11.877	5.886

()

VISCOUS PLUME POUNDARY COORDINATES. SET 5

PHOTO	¥	P	YAREVIT	RIRFXIT
**O .	(INCHES)	(TMCHES)		
76	രൂകൃത	1.353	0.000	3,866
26	4.097	0.452	# • PP	1.291
26	9.29B	W. 669	M_594	1,912
26	2,465	P 881	1.329	2.518
26	0.794	1.102	2.267	3.148
26	1,177	1, 333	3,363	3.808
26	1.696	1.533	4.846	4.381
26	2.225	1.635	A.357	4.670
26	3 400	1 . คที่ 1	8.571	5,146
26	3.412	1.85%	10.321	5,299
26	4.031	1 . 80/4	11.517	5.399
26	4,298	1.90A	12.279	5,450

VISCOUS PLUME ROUNDARY COORDINATES. SET 5

PHOTO	Y	P	Y/PFYIT	R/RFXIT
FO.	(INCHES)	(INCHES)		-
28	ଅ.ମମ୍ଫ	1.361	a aga	3.890
28	9.004	P.551	0.011	1.574
28	9.130	M.841	M.371	2.403
28	4.324	1 . 49 4	Ø.025	3,114
28	9. AB3	1.334	1.723	3.817
28	a,90 <del>5</del>	1.613	2,585	4.608
28	1.291	1.027	3.490	5.506
28	1.746	2.204	4.088	6.297
28	2,190	2,392	6.257	6,833
28	2,691	2.580	7.689	7.371

## VISCOUS PLUME POUNDARY COORDINATES. SET 5

01049	Y	p.	x/PEYIT	R/REXIT	_
<b>^</b> (0 ⋅	(INCHES)	(INCHES)			
30	P. PBP	1,363	ଫ.ଜଗ୍ଟ	3.894	
30	a.ega	14.142	0.400°	1,263	
30	9.149	11.672	O AMO	1.921	
30	m.35A	0.040	1.023	2.685	
30	0.023	1.386	2.430	3,959	
30	1,241	1,585	3.545	4,528	
30	1.575	1.886	4.499	5.159	
30	2.048	<b>ጋ</b> . መይጠ	5.851	5.715	
30	2,415	2.136	6.000	6.104	
30	2.813	2.282	ନ୍ମ୍ୟ ସ	6.529	
30	3,249	2.405	9,283	6.871	
70	3,660	2.474	10.456	7.069	

VISCOUS PLUME POUNDARY COOPDINATES, SET 5

PPATA	٧	P	X/PEXIT	R/RFXIT
<b>^0.</b>	(INCHES)	(INCHES)		
3.5	ବ୍ରମ୍ୟ	1,343	o.000	3,837
72	ଖା. ମଣ୍ଡା	0.417	9.002	1.191
32	7,150	∞ <b>ុំគ</b> §់ក	0.453	1,514
32	0.434	a 650	1.242	1,858
32	2.785	·x . 774	2.243	2.212
72	1.246	W. AAQ	3.561	2.312
32	1,640	7 A2 A	4.710	2,343
₹2	2.479	7.825	7.082	2.356
32	2.979	ช.ื¤3ัก	8.511	2.398

VISCOUS PLUME ROUMBARY COORDINATES. SET S

PENTO	¥	Ŕ	X/PEVIT	R/RFXIT
٠ n	(INCHES)	(TNOHES)		
74	14	1.364	o.rur	3.9#3
14	2.000	n. 433	0.000	1,238
34	7 171	M 54H	C_469	1,565
3.4	4 467	0.702	1.334	2.001
3.4	a.860	0.810	2.456	2.314
3.4	1.298	เหมือธิร	3.70°	2,443
74	2.163	n 857	6.187	2,447
3.4	2.590	1.974	7.400	2,498
74	3.212	M. AAA	9.17P	2.474

MISCOUS PLUME POUNDARY COORDINATES, SET 5

PHOTO	٧	R	X/PEYIT	R/RFXIT
<b>50.</b>	(Indaka)	(INCHES)		
*6	a	1.365	2.001	3.901
36	P. 40P	0.41n	ም <b>. ሶዕ</b> ጥ	1,171
₹6	0.134	M FOR	# J 382	1,447
₹6	4.420	∥ 584	1.227	1.669
₹6	763	0.607	2.181	1.734
76	1.989	Λ. 581	3.112	1.660

MISCOUS PLUME ROUNDARY COMPRINATES, SET 5

PHOTO	Y	¥	Y/OFVIT	R/RFXIT
''D.	(Lythed)	(TNCHES)		
48	ing majas	1. 154	n ngu	3.891
. A	ଓ , ଫରାସ	0.42 *	o.cvo	1.200
36	0.121	0 49a	<b>6.345</b>	1,423
τβ	4.342	4 544	a.07A	1.565
3.8	A.RED	rs , 55-4	1.454	1.572
38	4,799	7.545	2.283	1.556
<b>ጃ</b> ይ	1.038	1.517	2.965	1.478
<b>38</b>	1.593	0.492	4.552	1.407
38	1.972	9.5ps	5.435	1.447

#### MISCOUS PLHME POHNDARY COORDINATES, SET 5

PLATA	Y	<b>a</b>	Y/DEVIT	R/REXIT
··O•	(InChEc)	(TNCHES)		
10	4.194	1.374	₩•¢አማ	3,926
40	<b>ា.ខន្លា</b>	1.439	e aco	1.254
19	8,298	<b>∞ 55</b> 2	P.594	1,578
40	4.560	4.615	1.625	1.758
41/1	4.494	9.626	2.550	1.789
40	1.661	? <b>`</b> 634	4.746	1.801
49	2.03A	4.619	5.822	1.767

VISCOUS DELIME DOUNDARY COMPRINATES. SET 5

PHOTO	Y	t <del>.</del>	ANDEALL	R/REXIT
<sup>60</sup> 0.	(INChee)	(TNCHES)		
12	0.000	1.365	m, mpm	3.899
42	0.000	4.414	7.707	1.189
4 2	a 192	∞្នៃក្ន	<b>*.54</b> 9	1.627
42	0.472	0.795	1.207	2.016
42	· . 755	~ A22	2.154	2.347
42	1.144	# BAK	3,270	2,465
42	1 244	0.024	5,159	2.627
42	2.227	~ . 931	6.364	2.661
42	2.432	0.031	7.520	2.661
45	₹.495	ဝဉ်ဝ	P. 847	2.654

# VISCOUS PLUME POHNDARY COOPDINATES: SET 5

PHOTO	γ	ង	X/PEYIT	R/REXIT
•••	(INCHES)	CINCHEST		
4	0.000	1,350	n. 400	3.883
44	0.00	4.492	ø . ፡ ፡ ፡ ፡ ፡ ፡ ፡ ፡	1.405
14	7,194	9 694	a, 553	1.983
4.4	a 45a	4,962	1.285	2.463
44	o .825	1.105	2.35n	3.156
d 4	1,221	1 365	3.49	3,899
44	1.576	1.602	4.484	4,577
		1.811	5.606	5.175
44	1.962	2.217	7.772	6.335
44	7,489	2.406	P.827	6.875
6.4			q ំ១ភ្នំA	7.362
44	3.474	2.577	17.912	7.816
4.4	3.810	2.735		8.702
14	4.480	3.046	12.799	
14	4.824	₹.170	13.784	9.058
44	5.139	3.302	14.684	9,434
44	5.424	3.445	15.498	9.843

MIRCOUS PLUME BOHNDARY COOPDINATES, SET 5

PUOTO	٧	t)	Y/PEYIT	R/RFXIT
٠٠.	(Indhéa)	(TNOHES)	·	
44	W. 198	1.354	ጠመቀ	3.874
46	15 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	474	୍ , ୯୫୨	1.354
16	Ø.15K	Ø . 471	F.447	1.916
46	0.439	n 994	1.254	2.554
46	0.797	1.124	2.27º	3.212
46	1,151	1,313	3,292	3,752
4 E.	1.510	1,512	4.341	4,321
46	2,294	1.892	4,553	5.406
46	2,748	2,110	7,851	6,228
46	3,171	2.335	9.062	6.671
46	3.569	2.524	10.198	7.211
46	7,057	2.682	11.294	7.662
46	4.326	2.847	12.361	8.116
46	4.736	3.712	13.531	8,607
46	5.104	3.179	14.584	9.083
46	5.511	3,343	15.747	9,552

## VISCOUS PLUME POUNDARY CONSTINATES. SET 5

PHOTO	¥	Fè	Y/FFYIT	RZREXTT
MO.	(INCHEE)	(INCHES)		
48	7,707	11.477	9.047	1,363
48	4.167	4.673	0.465	1.923
4 p	9,161	<b>ଜ</b> ୁଲ୍ଲିବ	1,316	2,456
4.9	n . a50	1.484	2,454	3.096
48	1.211	1.277	3.459	3.648
48	1 407	1,467	4.597	4.190
a B	2.217	1.689	5.762	4.801
48	2.456	1.846	7.918	5.275
48	2 450	2 945	คิดรีค	5,844
4.8	3.209	2.249	9.169	6.422
48	4.001	9,543	11.432	7.267
AR	4, 145	2.731	12.490	7.802
48	4,230	2.892	13.799	8.262
48	5.201	3,053	14.860	8.722
48	5.524	4.191	15.782	9.118

VICCOUS PLUME ROUNDARY COORDINATES, SET 5

PHOTO	¥	P	x/PEYIT	R/RFXIT
10.	(INCHEC)	(TNCH'S)		
58	O1 . (14 (2) (14	1.371	<b>У.</b> МИР	3.917
50	0.000	0.469	0.000	1.340
50	2,103	M AND	P. 29A	1,714
F (1)	7.26A	U. 704	7.767	2.016
50	0,595	# AB2	1.700	2.521
50	7,947	1.043	2.705	2.979
50	1.631	1.34%	4.659	3.830
50	1.957	1.512	5,593	4.319
7 (A)	2.662	1.811	7.604	5,175
F (1	3.419	1.954	9.427	5.588
E 12	3.461	2.140	9,889	6.115
50	3.A32	2.294	19.952	6.560
~ <i>γ</i> ι 5 <b>γ</b> ι	4.659	2.595	13.313	7,422
5 Ø	5,000	2.76"	14.544	7.884

VISCOUS PLUME BOUNDARY COORDINATES. SET S

PHOTO	¥	<del>p</del>	Y/PEVIT	R/PFXTT
M n .	(IMCHES)	(TNOHFS)		
54	ଓ,୯ମ୍ଫ	1.379	12 . m 19 14	3.939
54	୯.୯04%	0.434	୯.୩ଉଟ	1.240
E, 4	4,121	",K19	٥.347	1.767
44	7,337	0 820	0.962	2,343
54	0.454	1.001	1.867	2.859
5.4	m.090	1.173	2.854	3,352
F 4	1,393	1.425	3.98 <u>1</u>	4.070
54	1,696	1,583	4.846	4,524
44	2.716	1.715	5.759	4.901
5.4	2.306	1.851	6.589	5.2 <sup>8</sup> 8
44	2.614	1.097	7.469	5.706
E 4	2.910	2.148	° • 71.3	6,922
F 4	3,243	2.291	9.267	6.546
5.4	3.511	2.402	10.032	6.862
F 4	<b>4.41</b> 5	<b>্রার</b> দ	10.899	7.242
54	4.773	2.457	11.637	7.591
54	4.385	2.772	12.528	7.920
5.4	4.711	2.0A7	13.459	8.307
54	F . // T	3.033	14.322	8,665
F 4	5,436	3,210	15.531	9,196

VISCOUS PLUME POUNDARY COMPRINATES. SET 5

PUNTN	V	μ	Y/PEVIT	R/RFXIT
,.Ü.	(INCHES)	(TNCHES)		·
66	4 <b>.</b> 14 t/k /*	1.366	6.002	3.993
<b>۴. ۴</b>	11 11 12 13 13	e . 47 m	0.000	1.343
<b>56</b>	⊬ <b>,14</b> 0	H_A52	4.425	1.863
56	0.336	# . P35	0.960	2.385
E 4	4,550	1.000	1.696	2,879
r. 6	PANA	1,173	२ उठ्ड	3,352
56	1.050	1.309	3 005	3.739
FA	1.357	1.473	1.877	4.208
5 A	1,633	1,434	4 666	4,668
<b>66</b>	1.717	1.786	5.457	5.104
۶ <sub>6</sub>	2.143	1.922	4.122	5.49a
R.B	2.412	2.046	4 . A 9 1	5.846
₽.€	2.472	2.171	7.434	6.204
E 6	ว. ५७४	2.282	8.309	6.520
≈ 6	7,152	9.798	0.025	6,851
~ A	3.383	2.509	0.665	7.169
44	₹.579	2.400	17.225	7,453
56	ក្រែល្ខ	2.702	10.870	7.720

# VISCOUS PLUME POHNDARY COOPDINATES. SET 5

PLOTO	V	H	ANDEALL	R/RFXIT
MO.	(INCHEC)	CINCHEST		
tiβ	a . e a a	1.379	0.000	3.939
F. 8	0 . CØ0	·· 479	7.007	1.367
6 g	Ø.128	0 A76	9.367	1,932
٩ĕ	Ø.₹84	0 A Q	1.094	2,599
F. 8	4.762	1.136	2.17°	3.159
5 A	1,145	4 324	3,272	3,788
48	1.524	1,537	4.355	4.392
<u> </u>	1.492	1.796	5 . dv16	4.875
48	2.318	929	6.624	5,508
5 A	3,184	2.324	9 . A 9 P	6.646
48	3.614	2.524	10.325	7.211
e g	4.51	2.725	11.574	7.747
5 ē	4.540	2.954	12.073	8.440
u A	4.069	3.094	14.193	8.840
≂ <b>8</b>	5.497	7 740	16.72	9.549

VISCOUS PLUME POUNDARY COMPRINATES. SET 5

PHOTO	¥	R	Y/PEY1T	R/RFXIT
' n .	(1v0HE2)	(TNOWES)		
$\epsilon p$	a <b>,</b> ∂ <b>д</b> и	1.354	क <b>, लक्</b> र	3.870
h Ø	n.000	A 477	0.000	1.363
4 <i>V</i> ,	2.164	4.663	P. 29A	1.894
1 (A) 1 (B)	0.354	n 846	1.411	2,418
6 W	0.633	1.043	1.427	2,979
40	4 051	1,179	2.719	3,365
AQ.	1.320	1.364	3.794	3.897
40	1,715	1.554	4.991	4,439
4 g	ク <b>、</b> σラκ	1.72 <sup>8</sup>	5.931	4,937
F (A	2.41	1.894	<b>ℰ</b> .¤ጸፋ	5.410
40	၁ ရက်မ	2.757	P.027	5.877
42	3,182	2.23º	9.791	6.393
47	3,581	2.419	14.232	6.911
A.A	4.790	2 553	11,430	7,293
* Ø	4.392	2.711	12.54 <sup>8</sup>	7.744
40	4.715	2.882	13.473	8.233
F (2)	F 291	3.100	15.11 <sup>p</sup>	8,856

# VISCOUS PLHME EQUADARY CORPUTMATES. SET 5

Pichto	٧	()	ANDENTA	RIREXTT
0.	(INCRES)	(TNCHES)		
12	e.ega	1 . 777	w.og=	3.923
42	11. 160	4.476	o.avo	1.360
69	ค.168	M 457	P 447	1.976
٧,5	4.485	n 832	1,387	2.378
12	1.596	1.425	2.564	2.928
+5	1,376	1.245	3,933	3.557
62	1 .498	1.490	5.424	4.257
	2,396	1.687	A.84A	4.821
42 42	2.197	1.0/2	P. 27P	5.435
4 <b>2</b>	3.426	2.eH7	9.787	5.962
	3.062	2.343	11.310	6.495
+ 5 + 5	4,146	2,545	12.704	7.186
	4,495	2.443	17,086	7.549
4.2 4.3	5, 722	2,819	15.204	8.756
4.5 4.5	5,63	2.0.3	16.180	8.465

VISCOUR PLUME POUNDARY COORDINATES. SET 5

PUNTO	•	유	Y/PFYTT	R/RFXIT
Mn.	(TMCHES)	(INCHES)		
AA	7.20P	1,357	a. aaa	3.877
4 R	*.000	453	0.000	1.294
A g	9,128	ต <b>ู้ ี่ 6</b> 5?	0.365	1,863
~ Ř	17,324	- A31	0.927	2.374
9.4	0.595	1.04.	1.700	2.972
A R	9,034	1 242	2,661	3,548
AÀ.	1.267	1 438	3.619	4.108
A B	1.594	1.629	4,555	4.650
48	1.021	1.817	5.4AA	5.190
84	2,279	2.003	6.511	5,724
<b>48</b>	2.707	2.222	7.736	6.348
18	3.107	2.499	R.F7A	6.880
A E	7,480	2 K9K	9.967	7.413
<del>6</del> 8	3,281	2.782	11.090	7,949
68	4.286	2.954	12.246	8.445
6.8	4.796	3,134	13.446	8,954
6 A	5.791	3, 301	14.544	9,432
6.8	5.486	3.464	15.474	9.896

VIRCOUS BLUME FOUNDARY COORDINATES, SET 5

PHOTO	Y	R	V/PEVIT	R/RFX1T
٠٥.	(LACHES)	(TNCHES)		
70	a . aga	1.361	C.002	3.890
70	0. 4 pl 2	19 <b>.</b> 19 19 10	0.000	0.000
70	0 00	0.436	ଫ୍ଲାଉମ	1.245
70	n, ≥68	# KAA	0,196	1.674
7 <sub>V</sub>	4.265	m.786	0.75A	2.245
7 Å	4.596	m <b>`</b> 055	1,447	2.730
70	m.931	1.145	2.374	3.272
70	1.164	1.33/	3.325	3.799
70	1 571	1.546	4.488	4.417
ファ	1.901	1.736	5.430	4.961
70	2.259	1.912	6.45 <sup>K</sup>	5,462
<b>7</b> 🙆	2,593	2.280	7.409	5.942
プロ	2,944	2.239	8.411	6.397
70	3.319	2.412	9.45A	6.891
7 B	3,757	2 605	12.734	7,442
7 a	4.214	2.89 <sup>K</sup>	12.039	8.013
70	4.723	3.013	13.495	8.609
70	5.16g	7.197	14.744	9.123
70	5 - 17	7.740	15.820	9,569

VISCOUS PLUME BOUNDARY COMPDINATES! SET 5

10.	(InChEs) A	P (TNCHES)	Y/PEVIT	R/RFXIT
72	ሚ <b>.</b> 2010	1.366	0.002	3.9#3
72	4.000	0.467	ભા, ભાજુ છ	1.334
72	0.192	P 659	7,540	1.883
72	4 657	9.842	j.580	2.4/5
72	1.624	1.1%6	4,355	3.141
72	2.032	1,205	5,894	3,443
72	2.583	1 , 15 1	7.387	3,866

VISCOUS PLUME COUNDARY COMPANIATES. SET 5

PENTO	¥	H	y/FFVIT	PYREXIT
n,	(Inchée)	(TMCHES)		
74	0 . v @0	1.364	កុស្ស្ស	3.897
74	0 . 5 <b>3</b> 3	0.036	N . 7 M C	1.245
74	m.114	" 572	0.327	1.634
74	149	4 7 C 5	1,096	2.014
	- ·	- 437	1.858	2.3 <sup>8</sup> 1
74	0.650 0.037	011	2 479	2,693
74	4,937	σ.04σ	7 57	2,492
74	1.233	·	4.425	2.797
74	1.554	~,049		2.734
74	1,834	7 057	F. 230	
74	2.142	11.072	6.12"	2.779
74	2.584	1.227	7.362	2. <sup>876</sup>
7 A	5.039	1.746	я <b>, т</b> 65	2.983

VISCOUS PLUME POUNDARY COORDINATES. SET 5

PENTO	٧	Q	Y/REY!T	RVREXIT
۱n.	(INCHÉS)	(THOMES)		
7 P	ቁ <b>.</b> ማ (A Ø)	1.372	ଫ • ଫ ମେ ଫ	3,921
78	2.700	. ₹40	ይ <b>.</b> ተቃወ	я.996
	0.40	496	9.113	1.418
78	.175	A 692	0.500	1.972
78	• • • • • • • • • • • • • • • • • • • •	# <b>86</b> 8	1.060	2.481
78	0.371	1.271	1,941	3,261
7 A	M. 679	· •	2.907	3,612
78	1.018	1.264	4,199	4.143
78	1.470	1.450	5 ซมัค	4,475
78	1, <sup>858</sup>	1.566	•	4.979
78	2,241	1,743	6.402	
78	2,612	4.954	7.462	5.575

VICCOUR CLUME COMMONDARY CONDUINATES. SET 5

ባቸብ፦ዓ • ሰ •	(Tythied) A	CINCHES)	Y/FEY1T	R/RFXTT
79	ក្បុក្ស	1.777	7.092	3.934
79	9.260	5 . <b>7 A</b> A	ଡା . ସହର	1.100
79	2.126	9 624	7.36	1,783
79	2.338	7 n 3 n	0.064	2.398
79	7.473	1.044	1.92%	2.983
7 <b>9</b>	1.469	1.43	4.172	4.286
79	1 663	1.624	5,666	4.584
79		1.77	7.215	5,866
79	2,525 3,067	1.026	8.763	5.502

VISCOUS PLUME BOUNDARY COORDINATES. SET 5

PROTO	¥	R	X\EFAIT	R/RFXIT
MO.	(INCHES)	CINCHESI		
<b>۴</b> 1	~ <u>.</u> 0.030	1,378	r.000	3.937
H1	2.300	9.367	0 . 0 O O	1.049
ΡĨ	2,124	4.557	P.353	1.592
4 <b>1</b>	2.339	3.769	0.969	2.196
P 1	4.602	0.034	1.720	2.674
рŢ	4,043	1.114	2.494	3,183
F-1	1.341	1.246	3,832	3,559
64	1,723	1.363	4.924	3,894
<u>4 آ</u>	2.480	1 544	7.086	4,410
<sup>81</sup> 1	2.87R	1 593	8.222	4,552
P 1	3.618	1.677	10.314	4.792

VISCOUS PLUME HOUNDARY COORDINATES. SET 5

PHOTO	y	R	Y/PEYIT	R/RFYIT
۸0.	(IMCHEZ)	CINCHESI		
۵3	ሳ.፡፡ ማጠማ	1.769	1.000	3.910
<b>8</b> 9	2.700	<b>出。38</b> 3	4 . P W. C.	1.087
яЗ	a 796	ຕຸ552	(*,273	1.578
⊬3̃	0.307	a 747	U . P 7 6	2.134
нз	M.581	N.887	1.660	2.534
₽ž	0.916	1.023	2.419	2.423
PZ	1.264	1.136	7.417	3.245
яз	1 682	1.245	4 004	3.557
P 3	2,183	1,347	5,053	3.850
я <b>ў</b>	2.485	1.428	7.100	4.0R1
яз	2 A81	1.528	6. 236	4,366
AZ	3,225	1.619	9,214	4.626

VISCOUS PLUME ROUNDARY COORDINATES, SET 5

PHOTO	Y	R	TIVBALX	R/RFXIT	1
MD.	(InChée)	(INCHES)			·
P 5	ଡ <b>୍ଟ</b> ୍ର	1.389	0.020	3.948	
A5	ଓ•୯ଉଜ	0.459	C.000	1.311	
<b>м</b> 5	C.147	M. 475	N.424	1.927	
<sup>6</sup> 5	0.362	<b>%_881</b>	1.034	2.516	
F 5	1.233	1.295	3.523	3.701	
<i>4</i> 5	1.668	1,491	4.764	4.259	
<sup>A</sup> 5	2.733	1 . R4K	7.800	5.275	
<sup>8</sup> 5	3.228	1.964	9.223	5.510	

VISCOUS PLUME ROUNDARY COORDINATES. SET S

PENTO	Y	Ų	Y/PFY!T	R/RFXIT
٠٠.	(Irunte)	(1904661		·
p.7	4.300	0.324	<b>ា .</b> ២៤២	ø.931
# <b>7</b>	0.001	7.497	7.262	1.420
P 7	4.261	4.635	9.747	1,814
۶7	0.440	<b>4.7</b> 8₩	1.258	2.230
F 7	7.453	2.881	1.865	2,516
P 7	0.045	// ្មុំធ្	2.771	2.801
<b>۶7</b>	1,249	1.046	3,568	2,988
٩7	1.569	1.106	4.484	3.161
47	1,020	1,161	5.513	3,317
۴7	2.350	1.227	6.713	3.595
97	2.760	1.231	7.9 <sub>0</sub> 9	3.517
97	1,200	1.251	9.169	3,574
۶7	3.572	1.240	10.205	3,543
۶7	7.084	1.235	11.363	3.530
₽ <b>7</b>	4.435	1.2.07	12.670	3.448
° 7	4.799	1.186	13.717	3.388
۶7	5.155	1.144	14.720	3.256

VISCOUS PLUME POUNDARY COOPDINATES, SET 5

PHOTO	y	P	Y/PFYIT	R/RFXIT
^:O.	(IACHEZ)	(TNCHES)		
P <b>9</b>	0.002	11.294	0.007	0.847
F 9	0.115	M. 466	0.329	1,331
49	4.271	0.640	Ø.774	1.827
P 9	9,555	F.801	1.587	2.290
1.9	0,890	A 882	2.543	2.521
# <b>9</b>	1,253	m 931	3,579	2.661
₽9	1.689	2.07A	4.824	2.787
F <b>9</b>	2,113	7,091	6.037	2.832
F 9	2.500	0.002	7.142	2.834
k <b>9</b>	2.050	0.06 A	8.454	2.743
¥ <b>9</b>	,442	0.034	9.834	2.667
£ g	3.781	4.671	10.803	2.490

VISCOUS PLUME POUNDARY COOPSTNATES, SET 5

PUNTA	¥	R	Y/FYTT	R/RFXIT
**0.	(InChic)	(TNCHES)		
a p	18 . 18 Ø 18	1.356	ତ ୍ତନ୍ତ	3.879
u S	4.00€இ	W.391	୮.ଜଡୁନ	1.116
nŽ	4,097	- 56A	P.278	1,623
۰ <u>5</u>	7.285	4.727	0.P14	2.276
٥Š	0.493	n 939	1.400	2.396
ກ້ວ	0.696	Ø. 95₹	1.989	2,723
ဝဉ်	9.985	1.047	2.R14	5.905
65	1.249	1.197	3.57€	3.163
ດ້າ	1.624	1,181	4.430	3,374
¢2	2.168	1.334	6.193	3.626
ດ ົ2	2.474	1.365	7.069	3.899
م جُ	2,808	1,496	P.022	4,017

VISCOUS PLUME POUNDARY COORDINATES. SET 5

PHOTO	¥	R	X/PEXIT	R/RFXIT
۸٥.	(INCHES)	(INCHES)		
94	ଜ.ମଗ୍ର	1.374	0.000	3.926
94	0.000	a.43a	0.002	1.229
94	4.072	3.673	0.205	1.923
04	0.220	a.853	P. 454	2,436
04	pr. 406	Ø. 980	1.160	2.891
94	M 680	1,151	1,943	3,288
94	0 0 4 R	1.325	2.707	3.786
94	1.287	1,497	3.677	4.277
94	1,599	1,668	4.568	4.766
94	1.953	1.845	5.579	5.270
04	2.311	2.007	6.602	5.735
94	2,625	2.178	7.500	6.222
0.4	3.261	2.496	9.318	7.131

VISCOUS PLUME POUNDARY COMPDINATES. SET 5

PHOTO	¥	R	YZREYIT	RIREYIT
NO.	(INCHES)	(TNCHES)		
96	ଡ଼ , ଓ ମଣ	1,364	0.002	3.897
96	0.000	2.401	୯.ଉହାଦ	1.147
66	0.10A	a 591	7.309	1,687
96	0.243	0.752	m,694	2.150
96	9.507	0 892	1.449	2.547
46	7,821	1,027	2.345	2,934
66	1.110	1.134	3.472	3.239
96	1.472	1.252	4.296	3.577
96	1.821	1 319	5,204	3,766
96	2.132	1.397	6.093	3.992
	2.477	1.477	7.07A	4.221
°6	2.79A	1 586	7,993	4,532

VISCOUS PLUME ROUNDARY COORDINATES. SET 5

PHOTO	У	R	Y/DEYIT	R/REXIT
wh.	(INCHES)	(INCHES)		
98	e <b>.</b> ଓଡ଼ାଳ	្ត <b>ុក្</b> សាក	0.000	1.000
OR	0.066	9.54A	0.496	1.560
Q B	Ø.171	4.723	0.49a	2.065
QB	0.343	B RAG	Ø <b>.0</b> ₿Ø	2.540
9.6	2,563	1.721	1.610	2.917
ဝမ္မ	/* • F /3 9	1.174	2.312	3.342
9.8	1.768	1.326	3,052	3.790
OB	1.38%	1 484	3,942	4.240
98	1.648	1.636	4.710	4.675
OB	1,912	1.788	5.462	5.107
ပန္တ	2.226	1.921	6.360	5.490
ပုန္	2.586	2.033	7.387	5.807
0.8	2.967	2.153	8.477	6.152
98	3.50R	2.352	10.022	6.720

# VISCOUS PLUME POHNDARY COMPOINATES. SET 5

PHOTO	¥	H	Y/PFX1T	R/RFXIT
۱0.	(INCHÉZ)	(INCHES)		
1 ~ 0	0,483	1.474	G • W (v G	3,914
1"0	и <b>. с д</b> е	9.474	ሮ <b>.</b> ማመማ	1.056
100	0,125	4,567	0.35R	1.620
1 0	0.253	0.741	v .727	2.118
100	0.429	<b>я, я</b> фФ	1.225	2.57@
100	9.551	1.015	1.574	2.899
100	0.725	1.116	2.072	3.188
100	7.944	1,234	2.696	3,525
100	1.143	1 358	3,265	3.881
100	1.393	1.504	3.079	4.297
1 0	1,459	1.622	4,741	4,635
100	1,977	1.743	5.364	4.981
100	2.092	1.858	5.977	5.3#8
100	2,374	1.985	6,784	5.671
100	2.634	2.09R	7.515	5.905
100	2.917	2.214	A.333	6.326
100	3.408	2.419	0.738	6.911
1"0	3,672	2.5MA	10.492	7.160

VISCOUS PLUME POUNDARY COORDINATES, SET 5

PHOTO	٧	Ħ	ANDENIT	R/RFXIT
* O .	(IMCHES)	(INCHES)		
102	а, ≈ра	1.356	2 <b>, n</b> p 2	3.874
102	9.00	M . 4M5	~ <b>. ~</b> 0 0 0	1.156
172	0.111	(1, A19	<b>%.</b> 314	1.749
1"2	4.293	# .R15	r.B3A	2.330
1"?	0.489	0.05P	1.39月	2.739
102	M.715	1.799	2.043	3.139
102	α.96P	1.217	2.765	3.477
102	1.288	1.335	3.679	3,814
102	1,551	1.470	4.432	4.199
1 1 2	1.911	1 . 57 A	5.175	4.508
1"2	2.142	1.46A	۸.120	4.766
102	2,481	1.747	7.489	4,990
182	2.401	1.621	H. 402	5.201

VISCOUS BLUME POUNDARY COORDINATES. SET 5

PHOTO	¥	₩	Y/PFYIT	R/RFXTT
'n.	(lached)	(INCHES)		
1 4	ሳ • በ የላይ	1,360		3.AA6
1 / 4	0.000	M. 4MA	ુ .∂૯૭	1.165
104	n.121	0.416	5 . <b>347</b>	1.741
164	0.301	· P3	7.867	2.372
104	0.560	j≥ 00(4	1.427	2.827
104	M. H62	1.141	2.463	3.259
1 4	1.194	1.306	3,412	3.732
1 0 4	1.507	1.445	4.744	4.128
104	1.864	1.544	5,326	4,413
1:14	2.617	1.768	7.475	5.453
104	2,09A	1.796	F . K.65	5.130

VISCOUS PLUME HOUNDARY COORDINATES, SET S

PHOTO	Y	D	Y/PEYIT	R/RFXTT
MO.	(InChéd)	(INCHES)		
106	r. war	1,367	0.000	3.976
1:6	5 . COO	· .35A	ଫ୍, ଫର୍ଡ	1.423
106	Ø.05A	P. 584	M.16M	1.447
106	a,168	0.453	0.480	1.865
106	0.306	<b>0.784</b>	C. P74	2.241
176	0.520	a ovo	1.485	2,596
106	7.A7P	1.002	1 , 0 3 <sup>p</sup>	2.863
1"6	4.980	1.123	2.801	3.210
126	1.247	1.221	3,563	3.488
1 "6	1.624	1.338	4.641	3.823
106	1,964	1.466	កុំត្នូច	4.188
1 6	2.238	1.561	6,395	4.461
176	2.546	1.645	7.275	4.771
106	2.551	1,683	8.145	4.808
106	7,178	1.715	9.680	4.901
106	3,461	1.729	9,889	4.941

# WISCOUS BEING BOUNDARY COOR HANTES. SET 6

PHOTO	<b>y</b>	R	ANCEXIT	RZREXIT
1 D.	(InCred)	(TNOHES)		
1	ு , பதுக	.35	e.eoe	1.000
1	0.45	4.458	. n.130	1.310
1	121	4.817	0.345	1.477
j	0.197	• 589	0.562	1.682
1	0.280	r 640	\$ <b>.</b> \$\$?	1.855
1	0.415		1.185	2.145
1	0.563	929	1.437	2.371
i	0.602	. គឺ។	1.720	2.517
1	732	034	2.127	2.670
1	1.243	1.756	2.060	3,217
1	1.211	1.098	3,460	3.137
•	1,379	1.144	3.04	3.27%
1	1 6106	1.174	4.599	3.360
1	1.760	1,212	5.030	3,462
1	1.063	1.244	5.61	3.5AU
1	2.345	1.325	6.700	3.785

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VISCOUS PLIME ROUNDARY COORDINATES, SET &

PHOTO	V	E)	Y/MEYIT	R/RFYIT
10.	(TWORES)	(INCLES)		
7	୯.୯୫୩	n	G.000	ø. अलक
7	0.090	1.355	M. ଉପଟ	3,472
4	* . 9 M H	2.346	ସ.ଜାଉଫ	И.989
ય	4.247	⇒्रेद००	m. #55	1.500
7	9.784	0.436	0.244	0.305
.5	P.172	2.471	P.491	1.345
4	<b>7,253</b>	P 400	Ø.722	1.425
e .	0.331	0.53 8	P.945	1.514
3	7,530	0.595	1,540	1,700
\$,	<b>731</b>	0.423	2.489	1.781
Σ,	9.885	A. 648	2.527	1.452
٠٢	0.070	<b>ማ</b> ልልች	2,77°	1.894
7	1,323	0 409	3.781	1,994
<u>,</u> र	1.474	គ្គុនមុខ	4.210	1.994
,۶	1,504	7.71	4,555	2,329

#### MISCOUS PLUME POUNDARY COOPERNATES. SET A

PHOTO	V	ř.	Y/PEVIT	R/RFXIT
. u.	(INCHES)	(INUMES)	•	
<b>!</b> 5	1.000	1.350	េ្តស្រុក	1.000
5	C.104	.476	€.297	1.360
Ġ	0.286	5,50	n.817	1.597
5	P. 494	e Kinh	1.097	1.730
5	2.493	1,647	1.4.17	1.850
5	Ø.721	0.715	2.060	2.042
4	9.870	и. <b>74</b> 0	2.485	2.115
5	1,005	a.759	2,872	2.177
5	1.16R	J 757	3,337	2.162
5	1.321	7,777	3.775	2.224
5	1.485	0.783	4.242	2,237
5	1.774	M. PB7	5,067	2.3%5

VISCOUS PLUME ROHNDARY COOPDINATES. SET 6

.

P+ n±0	¥	k	X/PEXIT	R/REXIT
10	(INCHES)	(TNCHES)		
7	<u> </u>	@.35£	_ 0.000	1.000
7	e ege	w.397	5.00K	1.135
7	o.g.48	m.46"	C . 1 37	1.315
7	0.117	0.516	A.335	1.475
7	A 188	d #80	°.537	1.657
	2.276	n.640	<b>₹.787</b>	1.830
7	%_351 ····		1.022	1.960
/	9.528 	0.795	1.507	2.272
/	•	n 849	1.857	2,475
<u>'</u>	↑. A5P	P 97	2.187	2.562
7	7.766		2.490	2.687
7	4.K71	1.041	2.827	2.845
7	a, 99 <i>a</i>	17.09A	3.680	3,115
7	1.288	1.090		3.232
7	1.431	1.131	4.090	3.342
7	1.578	1.170	4,507	
7	1,771	1,201	F. 460	3.432
7	1.937	1.240	к <u>, к з</u> к	3.542

### VISCOUS BLUME BOUNDARY COORDINATES. SET A

1

PUNTO	¥	<del>µ</del>	V/REVIT	R/RFXTT
`n.	(TROHES)	(TNCHES)		
ý	ଙ୍ଗରେମ	d <b>,35</b> 0	0.000	1,000
9	14. 32	0.50°	0.092	1.430
9	9.079	r.557	¢.225	1.592
	0.129	0.634	n.367	1.812
9	4.197	0.687	9.562	1.962
9	ユ. フラル	7.737	0.715	2.105
9	2.315	m.767	2.0M2	2.192
	0.332 0.300	* A36	1,115	2.390
9	0.472	e 890	1.350	2.542
9	M. 554	· .941	1.582	2.690
9		(1.08 <sup>8</sup>	1.920	2.822
9	%.672 2.775	1.037	2.215	2.962
		1.769	2.515	3.055
9	3,880		2.824	3.172
9	7.987	1 • 1 1 7	3,212	3,322
9	1,124	1,162	3.582	3.452
9	1.254	1.210	3,085	3.592
9	1.395	1.257	4.367	3.690
9	1.529	1.291	4.307	0.00
9	1.639	1.324	4.682	3.782
9	1.924	1.369	5.212	3.912
9	1.961	1.421	5.502	4.002

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VISCOUS PLUME POHNDARY COORDINATES, SET A

PFOTO MO.	(100HE2) X	(1MCHES)	TIXHANY	R/RFXIT
11	e, ege	a.35a	0.000	1.000
11	9.345	Ø.Q10	u.985	2,698
11	0.811	1.167	2.317	3.335
<sup>1</sup> 1	1,290	1.439	3.685	4.112
11	1.752	1.682	5.005	4.805
11	2.715	2.212	7.757	6.320
11	3.239	2.392	9,255	6.835
11	3,709	2.613	10.597	
11	4.170	2.830	11.915	7.465
11	4.632	3.012	13.235	8.085
11	5,056	3.22ª	14.445	8.605
11	5.562	3.428		9,222
11	6.200	3.663	15.892	9.795
• •	in the filter		17.715	10.465
	te i was	· · · · · · · · · · · · · · · · · · ·	•	

• . . .

VISCOUS PLUME HOUNDARY COOR HINATES. SET A

PHOTO	Y	R	ANDEALL	R/RFXIT
MO.	(InChes)	(IMUMES)		
13	a . waa	M.35	ে • ড গৈন্দ্ৰ	1.050
13	474	4.978	1.360	2.795
13	1.127	1.207	3.224	3.45@
13	1 042	1.443	5,559	4,122
13	2.780	1.673	7,942	4.780
13	3,895	2.194	11.130	6.270
4 <b>š</b>	4.473	2.386	12.780	6.817
13	5 01M	2.587	14.315	7.392
13	6.25@	2.874	17.285	8.212
13	4.354	3.041	18.155	8.690

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## VISCOUS PLUME SOUNDARY COORDINATES. SET A

STOIG	<b>v</b>	ų	Y/REVIT	R/PEXIT
∺n.	(INCHES)	(TNUMES)		
15	₫ <b>.00</b> 0	1.35%	1.000	1.420
15	9.062	* <b>5</b> 62	^.177	1.662
15	Ø . 1 1 5	1.A92	0.327	1.977
15	0.100	1 764	v 542	2,257
15	2.286	9.46	: P17	2.587
15	9.375	+ jan4	1.072	2.470
15	3.486	1.114	1.367	3.107
15	1.611	1.220	1.745	3.485
15	4.724	1.327	2,067	3.792
15	o.784	4.435	2.24	4.100
15	9,203	1 504	2.564	4.310
4 5	1.122	1.661	3.205	4.745
1.5	1.250	1.75	3.572	5 . MAA
4.5	1,382	1 . 4 . 4	3.95	5.242
15	1.504	1.911	4,297	5.46%
15	1.613	1.984	4.647	5.475
15	1.704	2.944	4.87	5.84g
ī 5	1 457	2,117	5 325	6.250
15	000	2.194	E 48E	
15	2.142	2,27	A.12 *	5.257 6.485

#### VICCOUS PLUME ROUNDARY COORDINATES, SET A

PHOTO	¥	H	Y/WEYTT	R/RFYIT
٠٥.	(Indned)	(TMCHES)		
17	क • किल्ला	1.350	1.042	3.483
17	ላ•ወመር	0 . <b>30</b> 0	11.000	1.114
17	9.259	# . B1#	7.169	1.458
17	14.79B	4,596	0.280	1.703
17	a.151	7.KB2	v.431	1.949
17	M.235	4.794	7.671	2,267
17	@.32t	4,024	0.918	2.641
17	0.405	1.940	1.158	2.972
17	0.506	1.153	1.445	3,294
17	4.629	1.279	1.796	3.654
17	G.747	1.409	2.134	4.026
17	M. F.97	1,558	2,563	4,452
17	1.730	1,681	2.070	4,804
17	1.203	1,817	3.437	5.193
17	1,354	1.962	3.A78	5.606
17	1.471	2.086	4.503	5.959
17	1,579	2.219	4.510	6.315
17	1,697	2.313	4,848	6.699
17	1.859	2.42"	5.313	6.913

VISCOUS PLUME ROUNDARY CHOPHINATES. SET 6

PWNTO	<b>&gt;</b>	F	V/RFY!T	RIREXIT
· n .	(InChes)	(THIPPES)		
<b>5</b> °	ര. ത്യത	1.354	er.aNe	3.468
20	M . 72 (2) (M	1.277	″୍ଟନ୍ଟ	1.076
<b>်</b> 2 •	c.058	4 4 4	0.167	1.296
20	7,117	<b>ៈ ដុំដុំដូន្</b> ន	4.33A	1.6AØ
Su.	0.173	1. AHH	7.494	1.956
Şu	1 226	0.790	7.647	2,256
20	9.302	y . 927	M.862	2.647
20	0.401	1,061	1.147	3.232
24	9,513	1,193	1.465	3.408
Şa	4.425	1,323	1。78年	3.779
<b>2</b> 0	731	1.454	2.087	4.161
5.0	0.860	1,580	2,45ª	4.541
20	1.032	1.702	2.95°	4.444
5"	1.179	1.826	7.37%	5,217
20	1.312	1,967	ፕ <b>.</b> 75 ግ	5,619
2 <i>n</i>	1.443	2.070	4.123	5,939
20	1.584	2.174	4.515	6.215
<b>5</b> 0	1.742	9.97E	4.977	6.549
	1,885	9. <del>3</del> 87	5.786	6.820
2	2.723	2.483	5.7 <b>7</b> 9	7,295
20	2,191	2.592	5.26%	7.404
2"	2.337	2.714	4.677	7.756
5 . 5.	2.440	2 8 14 4	6.071	8.711

VISCOUS PLUME ROUNDARY COORDINATES. SET A

PHATA	Y	ជ	¥/₽EY!T	R/RFXIT
N:0.	(leChke)	(TNCHUS)		
23	0,000	1 _ 351	o aya	3.859
24	A . 2012	0.374	C.OVE	1,058
۶̈́र	n . n 47	0.479	7.133	1.369
2.3	7.115	14. 413	7.329	1.749
2.1	0.19A	0.759	0.567	2,167
2.3	7.314	<b>មេ</b> គម្ពស់	M. 896	2,539
2 र	m 43A	1.034	1,245	2.954
2.3	0.587	1.176	1,67F	3.361
2.4	0.728	1.295	2.481	3,609
23	n 0014	1,433	2,583	4.095
24	192	1 545	3,121	4,472
วิง	1,283	1 480	7 A6 m	4,826
įγ	1.475	1 933	4.215	5.237
2.3	1.680	1,074	4.799	5.639
23	1 . 880	2.087	5.397	5,962
2 3	2.725	2.191	5.786	6.257
2₹	2.176	2.297	6.217	6.562
2 4	2,367	2.405	4.764	6.871
Ž	2 . 55.5	2 492	7.300	7.120
2.3	2.755	2.574	7.671	7.351
2.4	9,085	2.477	នុំគុន្ទ	7.649
5 4	3.205	2.7A1	9.158	7.447

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VISCOUS PLUME ROUNDARY COORDINATES. SET A

PHATO	Y	<b>t</b>	X/PEXIT	R/REXTT
\n.	(INCHES)	(INCHES)		
25	0.700	1.357	7.000	5.177
25	നം ശുമ	0.370	ା .ଜାହାଳ	1.063
25	C.164	*,486	. ተ <b>ጸ</b> ዓ	1.389
25	Ø,179	M. 427	7.511	1.742
2"	P.346	7.791	(4,0 <b>8</b> 0	2.256
25	a.500	7.034	1,454	2.670
25	2.668	1.766	1.885	3.245
25	9.832	1,174	2.378	3.354
25	1.032	1,294	2.948	3.703
25	1.236	1.439	3,532	4.110
25	1,429	1,572	4.783	4.490
Ž <sup>r</sup>	1,438	1.681	4.681	4.824
2 <sup>5</sup>	1.552	1.800	5,293	5.141
25	2.068	1,921	5.988	5,488
25	2,297	2,630	6.564	5.799
25	2.434	2.142	4.955	6.120
25	2.627	2.23A	7.507	6.593
25	2,882	2.353	P.23A	6.715
25	3,166	2.434	9,47	6.955
Se	7,470	2,556	9,941	7.302

JISCOUS PLANT REMANARY COORDINAL . SET A

PROTO	Y	a	<b>Y/</b> R( ) ( <b>T</b>	R/RFXIT
* n.	(INCHES)	(TNOWES)		
2 p	7.00A	1.353	(A 2	3.866
2 F	9.990	0.370	Ø 7	1.083
St	0.079	459	۽ پي ۾	1.311
2 <sup>8</sup>	9,269	4,582	(A ∳ €) Q A	1.663
2 P	9.352	6.489	1.007	1.969
2 k	0 635	0.821	1.529	2.343
Ž Þ	0.745	4,932	2.129	2.663
2 F	A. 030	1.422	7.A83	2.921
5 te	1.141	1.127	5.259	3,221
2 <sup>p</sup>	1.382	1.274	3.948	3.639
S <sub>E</sub>	1.689	1.421	4.826	4.059
2 <sup>p</sup>	1.988	1,541	5.479	4,403
2 <sup>8</sup>	2,284	1 . 467	A.515	4.764
5 <sub>8</sub>	2,015	1.891	8.329	5.404
24	3.270	1,984	9.343	5.675
S <sub>b</sub>	3.457	2.069	10.447	5.911
2 p	4.095	2.208	11.699	6.378

PIRCOHE PLUME POUNDARY COMPOINATES, SET &

P -NTH	8.0	۲.	<b>Y/</b> UFYIT	HIREXIT
1 <b>0</b> •	(1 MCMES)	(INCHES)		
₹ <i>Ģ</i>	1.100	. 55	0.000	1.000
A. Or	1,1∥₽	. 40 1	°.₹1⊅	1.490
30	a,277	5.577	₽. <b>7</b> 92	1,647
3.3	3,445	A5-	1,272	1,875
3.38	9.669	717	1.912	2.750
Tip	1.273	AAA	3,63%	2.532
٠,5	1.413	1.063	4. Ab. 1	2.752
₹.,4	2,000	1,039	<b>5.737</b>	2,947
K 1/4	2,492	1,884	7,122	3.497
3.8	3,246	1.067	9.275	3. 35M
3 B	3,543	1 1,11	10.110	3.145
414	₹,₽79	1,123	11.082	3.207

## MISCOUR PENME BOUNDARY CHORDINATES, SET 6

PHOTO "0.	(InChica)	(TNCHES)	ANDENIA	R/RFYIT
32	* • ** OF **	^ <sub>+</sub> 35/	2,300	1.900
45	1.123	4.466	₹ <b>.</b> 35≎	1,332
32	0.35m	".563	1.974	1.610
32	1.726	u ette	2. 175	1.960
32	1,048	9.780	2,095	2.230
3.5	1,762	6.862	3,892	2.462
₹2	1.781	4.927	5.787	2.650
3.5	2,186	γ <b>.</b> 01₹	6,242	2.610
2 ک	2.452	2.927	9.142	
٦2	3.153	9.917	9.217	2.647
3 <u>2</u>	3.436	0.007	9,917	2.620
ζŽ	3.807	0.048	14.877	2.647 2.707

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WISCOUS BUMME EDUNDARY COORSINATES. SET A

PENTO	<b>Y</b>	p	ANGÉAIA	RIREXIT
"n.	(INCHES)	(TNOHES)		
٦4	2.192	<b>4.35</b> 4	0.06%	1.000
7.4	n_49a	r.475	v.257	1.357
34	n.348	0.615	6.88v	1.757
₹4	^ 5gø	6.752	1.457	2.15U
*4	0.927	967	2.627	2.477
3.4	1.255	c 955	3.585	2.727
2.4	1.634	1.020	4.667	2.940
3.4	1.927	1.759	5.505	3.925
3.4	2.269	1 .098	6.482	3.137
7.4	2.540	1.120	7.257	3.225

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## VISCOUS PLUME POUNDARY COOPDINATES. SET 6

P 'OTO	¥	<b>P</b>	YAPEAIL	RZREKTT
`n.	(INCHES)	(TNCHES)		
*6	a . 200	, <b>3</b> 5	~	1.490
46	772	54	(,995	1.542
.85	4.195	11.640	0.557	1.540
14	4.316	11.735	0.002	2.100
46	9.549	i € 82⊅	1.570	2.350
76	9.735	e ART	2.107	2.522
16	9.968	7.934	2,742	2.672
46	1,183	🤊 ့ ဂပ္ပိုမ	3.382	2.452
36	1.443	1.061	4.710	3.232
46	1,723	1.130	4, ၁၇၁	3.230
³ <b>6</b>	2 734	1.172	ក <b>ុ</b> ជ្ជ?	3.347
₹6	2,366	1,234	6.760	3,440
46	2.674	1.247	7.64:	3,562
4.6	2.984	1.277	P 532	3.455
46	3.291	1.314	9.402	3.760

MISCOUS PLHME POHNINARY CORRESTNATES, SET A

PLATA	Y	<b>:</b>	ANDEALL	RZREXIT	ł
in.	(INCHES)	(TNCHES)			
74	0.220	35	0.090	1.990	
, , ,	4,060	. Fry H	r.197	1.490	
28	a.193	0.627	c.552	1.792	
 ⊀g	14 <b>3</b> (44	712	ሳ <b>.</b> ደንሮ	2.435	
	n 498	794	1.422	2.275	
ደዶ ቁፁ	*.783	074	2.237	2.547	
		1.019	3.762	2.912	
38	1.317	1 00	4,927	3.137	
7 A	1 • 725	1.126	ร.ค3%	3,217	
38	2.24M	1.180	4.757	3.397	
38	2.365		7.797	3,525	
3.9	2,729	1.234	9.062	3.697	
	3.475	1.294	9.75%	3.695	
さみ	3.167	1.293	** • ** <b>3</b> *		

# VISCOUS PLIME ROHNDARY COOPDINATES, SET A

PHOTO	×	ឆ	Y/PEVIT	R/RFXIT
MO.	(INCHES)	(INCHES)	•	
42	୍ ବର୍ଷ	1.357	0.000	3.877
4"	0.000	A 365	Ø•ੂ⊅\$?	1.043
40	2.465	4,465	r 184	1.336
40	g 25A	4.664	C.736	1.896
40	9.385	1.727	1.100	2.278
4.3	0.548	n.780	1.565	2.254
44	7.752	0.85%	2.157	2.427
40	9.04A	0.014	2.712	2,612
40	1.138	4.965	3,252	2.756
4 :-	1.381	1.721	7,044	2.916
419	1,657	1.086	4.735	3.173
4 7	1,924	1,139	5.572	3,254
4 .	2,182	1,173	6.233	3,352
4~	2,415	1.207	4.000	3.450
			7,440	3,537
4 '	2.607 2.630	1.23¤ 1.267	P. 785	3.619
4 ^ 4 >	2.83¢ 5.997	1.282	۶.۳62	3.663

VISCOUS PLUME POUNDARY COOPDINATES. SET A

PHOTO	<b>v</b>	ы Н	Y/PEV17	RIPEXIT
MO.	(InChEd)	(TNCHES)		
42	n. man	1,365	# . DO A	3,899
42	0 .00 M	Ø.371	0.00°	1.369
42	0.072	4.469	9,207	1,340
42	0.156	<b>0.567</b>	0.447	1.629
42	m.237	7.642	a.47₽	1.834
42	a 352	# 74K	1.007	2,016
42	a.513	d.762	1,467	2.178
42	2.706	6.822	2.41 <sup>8</sup>	2.347
42	# 9 MA	. 072	<b>ፇ</b> .፟፟፟፟፟፟፟፟፟፟	2.492
42	1.123	1.010	3.210	2.425
42	1.360	₹,073	3,012	2.781
42	1.443	1.027	4,695	2.934
42	1 . R99	1.96R	5.426	3.752
42	2,120	1,112	4.º57	3,176
42	2.350	1.155	6.713	3.301
42	2.630	1.211	7.513	3.461

VISCOUS PLUME POUNDARY COORDINATES. SET A

PHOTO	<b>v</b>	<b>₽</b>	Y/PEXIT	R/PFXIT
+ <b>∩</b> •	(INCHES)	(THUMES)		
41	क ्लबक	1,757	0.000	3.877
44	አ ∪ሰለ	4.36A	ጥ . ውዕም	1.040
44	0.083	M 499	₽ <b>.</b> 238	1,425
44	0.198	a 597	a.567	1.705
44	7.332	4. KTK	7.949	1.932
4.4	7 529	755	1.512	2,156
44	7.744	e 822	2.125	2,347
44	9,977	9.881	2.792	2.516
4.4	1,251	7.931	3.574	2.661
44	1.500	4.980	4.784	2.799
44	1.736	1.018	4.959	2.907
44	2.003	1.457	5.724	3.921
44	2.300	1.795	6.571	3.130

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VISCOUS PLHME BOHNDARY COOPDINATES, SET A

PHOTO	Y	Ç	XVEEALL	R/REXIT
* n.	(INCHES)	CTNCHEST		
46	0,000	1.364	្ក.្សុស	3.807
46	7.000	. 376	2.020	1.074
46	0.061	11,451	% 17 <sup>3</sup>	1,289
46	0,163	5.517	2.467	1.476
46	0.272	· .587	0.778	1.676
46	n $d p =$	0 K4X	1 151	1 A 3 A
46	7 540	084,11	1.569	1,969
46	M.72M	r.729	2.056	2.3º1
46	a,927	0.76A	2.454	2.187
46	1,127	A KIP . N	3,221	2.303
44	1,596	1.977	4,559	2.505
46	1,880	ការូនឲ្យ	5.377	2.556
46	2.10A	0.915	K. 1122	2.614

### VISCOUS PLHME BOHNLARY COOPDINATES, SET &

PHOTO	¥	<b>A</b>	Y/PEVIT	R/REYIT
·n,	(INCHES)	CINCHESI		W/W = 11
<b>4</b> H	ल,्लऋल	1.354	e nye	3,868
4+	ଫୁ ଫୁ/ଫୁ	145	បុំកណ្ត	Ø.9A7
4 F.	n n6H	4 421	1 197	1,223
4 4	2.261	100	<b>∅.57</b> ₹	1.427
4 <sup>n</sup>	0.376	574	1.074	1.629
4 H	0 . A 18 E	7.A31	1.729	<b>-</b> -
4 5	a 9a5	0.477	2 585	1.893
4 P	1.176	0.701	3,350	
4 P	1.465	W.728	4.18A	2.473
4 5	1.761	7.751	5.03c	2.081 2.145

VISCOUS PLUME BOUNDARY COOPDINATES, SET 6

PHOTO	Y	R	<b>X</b> / PEYTT	RAREYTT
0.	(INCHES)	(INCHES)		
52	n,400	4 . % 6 0	·	3.910
	0.000	B 450	ሁ. ወሰጣ	1.285
52		4 567	7,160	1.620
50	7,750		4.473	1.912
52	e.166	P. A.6.9	•	2.118
52	a,257	u .741	0.734	2.312
52	9.426	ตุลผว	1,219	
52	W.557	A RAR	1.592	2.536
52	0.753	959	2.152	2.741
	a 98a	1 027	<b>ጋ</b> . ¤ Ø 1	2.934
52		1.094	उ,ंदिह∺	3.114
52	1,186		0.066	3.321
52	1 423	1.162		3.548
52	1.677	1.242	4,792	
52	1.915	1.323	5.47°	3.779
52	2,232	1.414	K,377	4.039

STECCHE PLIME POUNTAGE COOP STRATES, CET A

PHOTO	٧	<b>u</b>	Y/PFYIT	R/PFXTT
۸0.	(INCHES)	(INJUNES)		
54	e. e.a	1.754	9.000	3.448
56	0.000	1.402	0.000	1.149
54	0.076	· 544	7.218	1.565
54	- 149	M. A41	0.427	1.832
54	r 270	7.731	11.79₽	2. ·· 87
54	n 41ª	0 A11	1,194	2,318
54	7 575	978	1,643	2.510
	a.772	4.955	2.245	2.730
54 51	2,965	1 020	2,750	2,441
5 K	1,193	1,114	3,410	3.183
54	1.448	1.190	4.137	3.401
54 54	1.710	1,260	4.017	3.625
5*	2.013	1.347	₽ <b>.</b> 753	3.850
つ <sup>に</sup> ちん	2.390	1.426	6.571	4,274

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VISCOUS PLUME ROUNDARY COOPDINATES, SET &

PUNTA	٧	þ	ANDEALL	R/RFXIT
'·n.	(InChée)	CENTHERS	•	
5 %	%.cg@	0.472	0,000	1.349
5 F	0.019	11.637	7.054	1.821
5 <i>F</i>	7.764	0.789	".182	2,254
5 s	7.120	<b>ា ចុ</b> ម្ប	342	2.801
54	2.190	1.144	V.513	3,279
5 ¢	7,290	1,297	<b>ก</b> พ.ช.	3,704
5 A	4.399	1.467	1.140	4.192
58	7.514	1.634	1.469	4.668
5⊦	a, 683	1.789	1.952	5.112
5 ×	7.845	1.034	2.414	5.530
5 a	1.053	2,702	3.010	5,977
5 0	1,274	2.255	3.439	6,442
<b>5</b> ⊭	1.501	2.447	4.288	6,991
5 is	1.691	2.610	4.830	
50	1.868	2.748	5.337	7.458 7.851

VISCOUS PLUME POHNDARY COORDINATES, SET 6

PHOTO	Y	Q	x/¤Exi*	R/RFXIT
,0.	(INCHES)	(TMCHES)		
6"	୯.୭୬ମ୍ୟ	1,370	0.000	3.919
60	a. 000	0.521	* , (2 (A))*	1.489
6#	n n54	9.660	4.160	1.912
<b>6</b> ′′	M.13A	n 794	0 . <b>49</b> %	2,279
63	0.245	0.034	0.7VC	2.667
6.4	0.357	1.074	1.020	3.070
6.0	a 499	1.284	1.425	3.670
60	7.657	1.365	1.876	3.901
60	7.771	1.453	2.233	4.152
<b>6</b> 0	7.932	1,547	2.579	4.421
60	1.284	1.663	3.09A	4.752

VISCOUS PLUME POUNDARY COORDINATES. SET 6

PHOTO	Y	R	Y/PEYIT	R/REXIT
٠,٠	(InChee)	(TNCHES)		
61	G.500	4.364	2.000	3.886
61	ପା,ଜନ୍ଧ	7.462	a ane	1.320
61	Я.0 <b>5</b> 4	P.598	P.153	1.707
61	m,131	14.734	Ø.373	2.498
61	4.207	Ø.850	0.591	2.427
61.	a.317	11.051	0.905	2.719
61	7.444	1.071	1.258	3,061
61	7.54R	1.183	1.567	3.379
61	0.676	1.288	1.032	3.681
61	m . 831	1.397	2.374	3.992
61	m 974	1 5 70	2.783	4.310
61	1.130	1.612	3.232	4.626
61	1.423	1.786	4.064	5.101
61	1.607	4 . 890	4,597	5.426
	1.799	1,991	5,139	5.688
61	1.498	2,065	5.708	5.904
61 61	2,185	2,125	6.242	6.073

### VISCOUS PLUME POUNDARY COORDINATES. SET 6

PHOTO	¥	₽.	Y/REY!T	R/RFXIT
NO.	(INCHES)	CINCHESI		
63	7.00A	1.356	a.000	3.874
63	n.000	0.458	0.000	1.309
63	9,950	0.540	W.169	1.569
63	7,187	a 455	M.516	1.872
63	0.296	0.759	Ø.847	2.167
63	7.477	0.865	1,363	2,456
63	2.646	n. 971	1.845	2.774
63	9.863	1,070	2.465	3.083
63	1,091	1,177	3.116	3,343
63	1.556	1.351	4.446	3.861
63	1.830	1,435	5.22ª	4.699

#### VICCOUS PLUME ROUNDARY COOPDINATES, SET 6

PHOTO	v	A	X/PEYIT	R/RFXIT
' n.	(INCHES)	(INCHES)		
6 <b>°</b>	ଉକ୍ଟମ୍ପର	1.361	ଜ୍ଜନ	3.888
6c	ଜ,ନରୁଜ	4.480	r.@@r	1.396
6ª	0.075	11.584	Ø.216	1.669
6 <sup>#</sup>	0.187	4.681	0.533	1.945
An	@.331	<b>7.791</b>	0.945	2,261
65	4.492	″୍ରଃମ	1.485	2,572
6 h	0.703	9,995	2.089	2.843
65	m. 931	1.100	2.661	3.143
6×	1.171	1.204	3,345	3,439
6=	1.443	1.313	4.123	3,752
65	1.756	1.435	5.017	4.161

## MISCOUS PLUME POUNDARY COMPDINATES. SET 6

PHOTO	•	Þ	X/PEYIT	R/RFXIT
1.0.	(Inches)	(TMCHES)		
64	୍ , ମହାଷ	1.355	0.000	3.872
64	0.000	4.514	0.000	1.469
66	0.077	0.617	େ.22™	1.743
64	n.198	11.774	P.567	2.212
66	m. 423	1.410	1.209	2.912
66	3.500	1.027	1.429	3.175
66	0.660	1.208	1.885	3,452
66	2.853	1.323	2.436	3,779
66	1.704	1.423	2.867	4.766
64	1.199	1 500	3.425	4.312

PLUME INTERNAL SHOCK COORDINATES. SET 5

· ·	РИОТО	У	Þ	X/REYIT	R/RFXIT
		CINCHES	(INCHES)	y gantania ( * 4) k kalab yami'ny taony ( 4) ani ingoniny mananana	and an in the same of the same
	78	m . mga	Ø.321	p . n g n	0.916
	78	0.049	0.414	0.142	1.1 <sup>p</sup> 3
	78	0.155	0.560	2.442	1.670
	78	9.353	754	1.700	2.154
-	78	0.634	4.937	1.812	2.659
	78	0.939	1.018	2.683	2.997
	78 ·····	1,294	1.127	3.703	3.219
	78	1.686	1.239	4.817	3.539
	78	2.087	1.331	5.964	3.803
	78	2.504	1.387	7.155	3,963
	78	2.932	1.456	8.379	4.159
	78	3.325	1.466	9.500	4.188
	- <del>- 7</del> 8	3.727	1 50 K	10.650	4,303
	78	4.141	1.516	11.830	4.330
	78	4.58%	1.505	13.086	4.301
	78	5.022	1.500	14.349	4.286
	78	5.361	1.469	15.318	4.197

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PLIME INTERNAL SHOCK CONPUTNATES, SET 5

PHOTO	¥	<b>p</b>	ANDFAIL	R/REXIT
50.	(INCHES)	(TNCHES)		
79	<b>୯.୯</b> ୦୯	m.295	10 <b>.</b> 10 10 10	0.842
79	0.093	0.432	0.265	1.234
79	0.279	0.436	0.79P	1.818
79	01.480	0,787	1,372	2,247
79	a.796	0.01A	2.274	2.623
79	1.506	1.115	4.303	3.185
79	2.069	1.229	5.911	3.512
79	2,564	1,272	7.324	3,634
79	3.083	1.315	8.809	3.757
79	3,584	1.340	10.241	3.830
79	4,024	1.337	11.497	3.821
79	4,483	1.318	12.808	3.766
79	4.866	1.296	13.904	3.703



PLUME INTERNAL SHOCK COORDINATES, SET 5

PHOTO	Y	R	X/PEYIT	R/RFX!T
KID.	(INCHES)	(INCHES)		
# <u>1</u>	a.000	0.363	3.080	1.036
P1	M.177	0.566	9.507	1.618
H1	a . 50a	Ø.752	1.429	2,150
<sup>8</sup> 1	n.934	Ø.882	2,383	2.521
P1	1.217	0.980	3.477	2.801
P1	1.65A	1.031	4,737	2.943
P1	2,143	1.073	6.122	3.065
£1	2.527	1.074	7,220	3.068
F1	2,913	1.967	6.322	3.250
81	3,300	1.071	9.429	3,459
$^{a}$ i	3,425	1.036	10.356	2.959
P 1	3,983	1.00A	11.379	2.881
A1	4.334	7.962	12.384	2,747
<sup>4</sup> 1	4.684	9,893	13.382	2.552
A 1	5,450	0.R15	14,429	2.327

PLUME INTERNAL SHOCK COORDINATES. SET 5

PHOTO	Y	Ð	X/REYIT	R/RFXIT
MD.	(INCHES)	(TNCHES)		
£3	m . MBM	<b>И.31</b> 9	G.000	Ø. 887
A 3	7.131	A.479	Ø.376	1.369
F3	#.41M	G.654	1.171	1,867
РZ	7.727	M. 781	2.A7A	2.232
۴3	1.067	0.822	3.048	2.347
P.3	1,446	<b>स</b> ्84ल	4.132	2.401
<b>E</b> 3	2.197	# <b>81</b> 8	6.277	2.338
e 3	2.564	7.787	7.327	2.250
83	2.910	o.737	8.313	2.105
e <b>3</b>	3.213	9,671	9.180	1.918
F 3	3,535	Ø.587	10.101	1.678
PZ	3.893	11,523	11.123	1.494
F 3	4.481	n.357	12,891	1.020
F3	4.746	M.224	13.550	0.647

PLUME INTERNAL SHOCK COORDINATES, SET 5

PHOTO	¥	R	X/PEYIT	R/RFX[T
110.	(IMCHEd)	(INCHES)		
A 5	a.200	4. <b>3</b> 5	2.000	0.965
<sup>8</sup> 5	9.177	# . K1 K	4.565	1.761
۶5	0.482	ด ุส5.3	1.378	2,436
<sup>2</sup> 5	0.576	Ø,893	1.645	2.552
Я <b>5</b>	Ø.847	1.681	2.421	2.859
<sup>8</sup> 5	1.196	1,088	3,417	3.110
۹5	1,53%	1.172	4.381	3.350
<sup>2</sup> 5	1.926	1.273	5.504	3.637
A5	2,371	1,329	6.775	3.797
<sup>8</sup> 5	2.409	1.376	9.007	3,930
6 ع	7.279	1.444	9, 169	4.126
£5	7,987	1,494	11.392	4.268

PLUME INTERNAL SHOCK COOPDINATES, SET 5

Ū

PHOTO .	([MCHEd) A	A (SHUML)	Y/REVIT	R/RFYIT
A7	<b>ு</b> ∉ எ <b>த</b> ன	1,344	(ଖ.ଜାନ୍ତ	3.841
P.7	ଡ <b>ୁ</b> ଗ୍ରେମ	0.394	9. BB4	1,127
F 7	4.09A	/* 501	4.276	1.659
P <b>7</b>	7.279	v.787	P.79P	2.247
P7	0.576	0.948	1.645	2.710
# <b>7</b>	0.916	1.134	2.419	3.245
P.7	1.266	1.311	3.617	3.746

PLHME INTERNAL SHOCK COOPDINATES, SET S

PHOTO	У	ព្	ANDEALL	P/RFXIT
MO.	(INCHES)	(TNCHES)		١
9	04 <b>, 02 (3)</b> (3)	4,390	e anne	p. 92p
იგ	0.115	459	P. 729	1.309
ųŽ	0.276	H. KUH	°.789	1,738
92	0.47R	9.724	1.365	2.067
02	0.734	a.792	2,896	2.263
ųŽ	0.991	Ø.790	2 a32	2.283
45	1.29A	M. 832	7.700	2.376
٥ <u>5</u>	1.584	0.242	4.526	2.405
٥2	1,821	M ASA	5,201	2,341
٥̈́ဥ	2,183	M. AGA	6.237	2.307
45	2.598	0.760	7.422	2 • 1 7 2
92	3,047	0.683	A.705	1.952
۴2	3.463	9.609	9,894	1.740
o ခွ	3.899	M.500	10.883	1.454
92	4.176	Ø.366	11,932	1,047
92	4.528	P. 241	12.937	0.689

PLUME INTERNAL SHOCK CORROTNATES, SET 5

PHOTO	Y	R	X/REYIT	R/RFXTT
*!O.	(INCHES)	(INCHES)		
94	a.000	ø.339	ଫ.ଉଡ଼ନ	0.969
94	0.114	0.548	Ø.327	1.565
9.4	0.266	A.758	0.760	2,165
94	0.500	Ø. 957	1.429	2.734
94	g.755	1.058	2.15A	3.023
94	1.044	1,152	2.983	3,292
94	1.365	1.272	3.901	3.634
04	1.683	1.359	4.808	3.883
94	2,049	1,462	5,855	4,177
94	2.417	1.553	4.884	4.437
94	2.737	1.600	7.820	4.572
94	3.108	1.643	A.880	4,695
04	3.509	1.452	10.025	4.721
94	3.830	1.683	10.943	4.808
94	4,153	1.708	11.866	4.881
04	4.870	1.729	13.913	4.941
94	5,305	1.704	15.158	4.868
94	5.A3A	1.452	14.658	4.721

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PLUME INTERNAL SHOCK COORDINATES, SET 5

PHOTO	V	p	Y/REYIT	R/RFXIT
F-0.	(InCrEa)	(INCHES)		
96	91.00M	0.370	e.MA2	1.458
60	9.117	7.517	* <b>. 333</b>	1.476
96	7.315	Ø KAM	ଫ୍ରୁଡାଫ	1.885
9.6	0.542	0.762	1.549	2.178
9.6	M. P22	0.843	2.347	2.410
96	1,134	r , 89K	3,239	2,561
96	1,411	v.915	4,032	2.614
9.6	1.657	9.923	4.735	2.639
96	2.180	a 943	6,228	2,694
٥6	2.582	9.937	7.378	2.676
96	2.905	4.013	F.370	2.607
96	3,291	P . 856	9,493	7,445
٥6	3.469	0.794	12.483	2.267
96	4.071	0.703	11.632	2,909
96	4,463	O. ARE	12.750	1.732
96	4.990	C.477	13.971	1.343
96	5,316	<b>の。33</b> 8	15.189	Я.9КВ

PLUME INTERNAL SHOCK COOPDINATES, SET S

PH070	(INCHES) A	CTNCHES)	Y/REYIT	RIREXIT
100	9.49B	ø,324	0.000	9.927
170	0.000	.471	Ø.258	1.345
190	0.219	× .427	0.625	1.792
1"0	0.401	9.787	1.147	2.250
100	n.576	9.917	1.645	2.621
100	9.782	7.97A	2.234	2.794
100	1.050	1.943	2,090	2,981
100	1.269	1.137	3.625	3.248
170	1.526	1,202	4.350	3.434
100	1.806	1.240	5.159	3.543
100	2,129	1 199	6.457	3.737
1 10	2.455	1.758	7.013	3.879
100	2.941	1.413	8.402	4.237
100	7.265	1.411	9.329	4,030
100	3.567	1.42	17.192	4.257
				=
100	3,927	1.422	11.219	4.063
180	4.252	1.419	12.14R	4.052
1"0	4.691	1.396	13.402	3.988
100	5,089	1.348	14.540	3.852
1"0	5,458	1.311	16.592	3.746

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1

PLUME INTERNAL SHOCK CHORDINATES, SET 5

PHOTO	×	Ħ	Y/REYIT	R/RFXIT
MO.	(INCHES)	(INCHES)		
102	ଉ.ଫ୍ୟୁଡା	0.346	0,000	0.989
102	0.11A	r . 523	V.33A	1.494
1/2	w.291	14.793	ด ู้ 831	2,709
102	0.511	P.867	1.460	2,476
102	0.696	0.034	1.987	2.670
192	7.909	1.932	2,596	2.863
1.02	1.131	1.077	3,232	3.076
102	1.383	1.134	3.950	3.252
1/2	1.642	1.200	4.690	3.430
102	2.001	1.254	5.717	3.583
102	2.315	1.300	6.615	3.721
1°2	2.640	1.347	7.542	3,848
102	2.957	1.367	8.449	3.996
102	3,247	1.404	9.276	4.117
102	3.617	1.407	19.734	4.∀19
102	3.912	1.410	11.177	4.028
102	4.205	1,44	12.015	4.115

PHOTO	Y	R	X/REYIT	R/RFXIT
10.	(INCHES)	(INCHES)		
1/14	a . 00a	M.355	<b>*.00</b> #	1.614
104	9.111	4,497	Ø.31 <sup>2</sup>	1.420
1/4	0.237	M 647	9.676	1,847
104	n.310	0.712	0.911	2.034
104	0.500	M.848	1.429	2,423
174	2.759	7.934	2.17%	2,667
1 % 4	7.992	1.012	2.834	2.892
104	1.256	1.064	3.59%	3.739
104	1.527	1,113	4.363	3.181
104	1.861	1.149	5,317	3.283
104	2.163	1.195	6.180	3,414
104	2,460	1.228	7.029	3.508
104	2,791	1.248	7.976	3,565
194	3.114	1.260	A.A9R	3.601
174	3,467	1.254	9.905	3.583
104	3.809	1.235	16.883	3,539
194	4,133	1.232	11.80P	3,519
104	4.469	1.214	12.768	3.468
124	4.810	1.186	13.744	3.368

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PHOTO	<b>Y</b>	Ħ	X/PEYIT	R/RFX1T
۸0,	(INCHES)	(INCHES)		
1/6	0.000	ø.339	ମ.ଜନ୍ଦ	0.969
176	9,124	Ø.499	p.356	1.425
106	@.261	W. 629	Ø.745	1.796
1"6	P.450	y.759	1.311	2.173
106	0.493	3.86A	1.981	2.474
1 " 6	0.021	7.927	2.632	2.647
126	1.293	0.990	3.694	2.830
1 36	1.612	1.445	4.686	2.985
106	2,213	1.968	5.751	3.452
1"6	2,334	1.095	۸,۸69	3.130
106	2.64R	1.083	7,567	3.094
106	3.000	1.078	A.578	3.079
106	3,370	1.755	9.629	3.014
126	3.640	1.026	10.401	2.932
106	4.085	A,995	11.672	2.843
106	4,549	9.912	12.997	2.605
1.46	4.894	0.843	13.984	2.407

PLUMP INTERNAL SHOCK COORDINATES, SET	PLHME	INTERMAL	SHOCK	COORDINATES	. SET A
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ОТОЧЯ	X	R	X\btxI1	RIREXIT
	(JACHES)	(INCHES)		
4	Ø.900	0.350		1.000
4	9.233	M.514	Ø.665	1.467
4	0.511	0.626	1.46%	1.787
4	7.798	6.73A	2.284	2.112
4	1.063		3,237	2.3A3
4	1.305	m. 903	3.73	2.580
4	1.935	1 . 230	5.537	2.942
4	2.472	1.953	7,062	3.007
4	2.635	1.051	8 <b>- 1</b> 0 - 1	3.002

PHOTO	¥	R	X/REYIT	R/RFXIT
* O .	(INCHES)	(INCHES)		
6	0 000	a 35a	и, ава	1.000
6	9.290	៸៸៝៲៹ៜ៰	0.230	1.682
· 6···	- 0.421	A8A, N		1.940
6	7.430	M . 8072	1,800	2.292
6	9.864	W. 91 A	2.47@	2.600
6	1.144	1.232	3.270	2.950
6	1,418	1.120	4.052	3.200
6	2.061	1,293	5.890	3.695
6	2.395	1.351	6.842	3.662
6	2,793	1.473	7.98%	4.019
6	3.161	1.449	9.032	4.140

### PLUME INTERNAL SHOCK COORDINATES, SET &

PHOTO	<b>Y</b>	R	X/REXIT	R/RFX1T
NO.	(INCHES)	(INCHES)		
7	a.aga	0,350	.0.002	1.00 <b>0</b>
7	Ø.172	0.589	0.492	1.682
<b>- 7</b>	a.671	и. 939	1.917	2.682
7	Ø.913	1.106	2.607	3.162
7	1.228	1.284	3.512	3.672
7	1.599	1.448	4.567	4,137
7	2,365	1,791	6,757	5 117

PHOTO ***	(INGMES)	R (INCHES)	X/REYIT	R/RFXIT
9 9 9 9 9 9 9	0.700 0.718 0.434 0.667 0.949 1.260 1.946 2.705	0.350 0.657 0.869 1.947 1.273 1.480 1.829 2.933 2.201	P.000 V.622 1.240 1.905 2.712 3.600 5.560 6.715 7.730	1.478 1.877 2.482 2.992 3.637 4.227 5.225 5.807 6.290

### PLUME INTERNAL SHOCK COORDINATES, SET &

	• • • •		and the second s	
PHOTO	Y	R	X/PEYIT	R/RFXIT
t. O .	(INCHES)	(INCHES)		
12	ଉ , ଉପ୍ରଶ	M.350	<b>ភ.ភ</b> ភភ	1.000
12	m.181	9.485	Ø.517	1.385
12	A.398	a.615	1.137	1.757
12	a.692	M. 695	1.977	1.985
12	1.060	Ø.772	.3.027	2.205
12	1,462	0.850	4,177	2.430
12	1,973	0.923	5,637	2,637
12	2.432	9.922	6.947	2.635

#### PLUME INTERNAL SHOCK COORDINATES. SET @

PHOTO NO.	(INCHES)	R (INCHES)	Y/PEYIT	R/RFX1T
13	ଜା.ଜାଡାଡା	<b>0,35</b> 0	Ø. ØØØ	1.000
13	2.192	0.552	Ø.55@	1.577
1.3	a.5g8	a.717	1.452	2.050
13	0.854	M. R64	2.440	2.470
13	1.172	0.999	3.350	2.855

PHOTO	¥	R	Y/PEYIT	R/RFXIT
Mr.C.	(INCHES)	(THUMPS)		
15	с.сис	7.35 <sup>(1</sup>	ଫ୍-ଡ୍ରେମ	1.280
15	4.248	0.534	<b>~.71</b> <sup>↑</sup>	1,525
15	2.624	W.736	1.782	2.192
15	1.725	N QBR	2.932	2,822
15	1.466	1.186	4.197	3,390
15	2.000	1.369	5.715	3.912
15	2,542	1.467	7.262	4.192
15	3.267	1.54A	8.762	4.422
15	3.686	1.641	10.532	4.698

### PLUME INTERNAL SHOCK COORDINATES. SET P

PHOTO	¥	Þ	YZREYIT	R/RFXIT
MO.	(INCHES)	(INCHES)		
16	0.200	и.35и	g.age	1.000
16	0.154	a.490	C.440	1.400
16	M.412	9.672	1 . 1 77	1.920
16	1,454	A 918	1.870	2.337
16	1,307	1.173	3.735	3,352
16	1.675	1.33A	4.785	3.822
16	2.110	1 499	6.030	4.282
16	3.720	1 775	A 43A	5.472
16	3,447	1.008	9,847	5,452
16	7,939	2 044	10.070	5,840
16	4.248	2.129	12.137	6.482

### PLUME INTERNAL SHOCK COORDINATES, SET "

P <sup>U</sup> OTO NO.	(1MCHES)	R (INCHES)	Y/#EVIT	R/RFXIT
18	e ୁ ଅ <b>ପ୍</b> ର	4. <b>35</b> 0	W. PWP	1.000
18	M 248	4.626	0.710	1.790
18	n.518	a 786	1.480	2.245
18	0 . 832	0.094	2,377	2.840
1 A	1.246	1.206	3.560	3.445
1 5	1.459	1.417	4.737	4.047
18	2,555	1.729	7.300	4.940
18	3,441	1.872	P. 687	5.350
1 8	3,534	2.033	10.097	5.810
18	4.052	2.205	11.577	6.300

PHOTO	v	ធ	*/¤EvIT	R/RFXIT
NO.	(INCHES)	(INCHES)		
20	a ្ល <b>ឲ្</b> ក	a.350	17 <b>.</b> 17 <b>. 1</b> 3 . 7	1.400
20	0.290	a 497	a.e3°	1.992
	0.672	01,965	1.02%	2.757
20	1.020	1.232	2.915	3.520
20	• -	1.380	3.912	3.942
20	1,369	1.576	5.000	4.592
20	1.750		5.950	4.980
20	2.282	1.743	•	5.902
20	2.773	2.066	7.922	
20	3.151	2.208	9,002	6.310
20	3.510	2.33%	19.032	6,657

#### PLUME INTERNAL SHOCK COORDINATES. SET A

PHOTO	¥	₽	Y/PEVIT	R/REXIT
r O •	(INCHES)	(INCHES)		
25	<b>୍ଟ୍ର</b> ମ	M.35M	ଫ.ଡଣଟ	1.000
22	m.339	B.732	Ø.967	2.392
22	9.524	Ø.873	1.497	2,495
25	9.715	1 000	2,042	2,880
25	7 097	1.179	2.847	3.370
2 Ž	1,299	生,4页页	3.71?	4.700
22	1.827	1.483	5.224	4.810
22	2.097	1.821	5,992	5.20 <b>2</b>
25	2,498	1.960	6.880	5.600
_	2.771	2.143	7,917	6,122
22 22	3 //34	2 292	8,667	6 <b>,</b> 550
22	3.277	2.415	9.362	6.900

### PLUME INTERNAL SHOCK COORDINATES, SET O

~ L (	trans. And a 12 state and 12 st			•
PHOTO	y	. <u>.</u>	Y/REYIT	P/RFXIT
P10.	(INCHES)	(INCHES)		
23	0.000	P.331	2.902	0.945
23	0.131	0.373	Ø.373	1,067
23	M 279	0.435	0,796	1.243
23	0.484	4.479	1.383	1.369
23	0.692	Ø.483	1,978	1.380
23	1.070	0.392	3.056	1.120
23	1,240	9.31E	7,547	0.900
23	1.437	P. 26P	4.106	0.767

B-180

CTOHS	¥	ti.	Y/REYIT	R/REXIT
10.	(INCHES)	(TNCHES)	· - •	
4	a . a g g	0,354	<b>ም</b> መ <b>ወ</b> ጠ	1.000
4	0.202	<a href="#">d 489</a>	a.577	1.397
4	p.531	0.625	1.517	1.785
4	a. 901	(1,791	2,287	2.260
4	1.129	A . Q184	3.225	2.575
4	1,483	1,055	4,237	3.015
4	1,428	1,157	5.222	3,305
4	2.239	1.256	6.397	3.547
4	2.635	1.339	7.53%	3.825
4	3,118	1.342	8.007	3,835
4	3.634	1.358	10.382	3.88%

### PLUME INTERNAL SHOCK COORDINATES, SET 1

PHOTO	¥	R	X/PEYIT	Q/REXIT
<b>**0</b> .	(INCHES)	(TNCHES)		·
7	መ.ሀጠን	9.354	7.000	1.000
7	4.243	0.500	<b>0.58</b> €	1.430
7	0.463	W. 686	1.322	1.960
7	9.759	0,842	2.170	2.405
7	1.144	4.973	3.767	2.780
7	1.582	1.122	4.520	3.205
7	2.122	1,235	4.062	3,530
7	2.726	1.312	7.787	3.747
7	3.240	1.765	9,257	3.900
7	3,772	1.319	10.777	3.747
7	4.231	1,235	12.487	3,534
7	4.733	1.127	13.522	3.222
7	5, 13A	1.007	14,387	2,477

### PLUME INTERNAL SHOCK COOPDINATES. SET 1

( ]

PHOTO	Y	B	X/PEY[T	9/RFXIT
MO.	(INCHES)	(INCHES)	•	•• •• • •
p	ଜ,ଜନ୍ନ	0.350	ଖା. ଅହାଡ	1.299
8	0.164	0.544	2.470	1.555
P	g.385	v.722	1.100	2.362
В	9.662	7.884	1.892	2.525
8	0.940	1.087	2.685	3.195
8	1.223	1.283	3.495	3.665
8	1,700	1 4BB	4.857	4,252
e	2.167	1.455	6.172	4.730
8	2.579	1.734	7.367	4.955
8	3,476	1 р4н	8.797	5.2AA
<del>8</del> 8	3,517	1.962	10.250	5,605
8	4.035	2.970	11.527	5.915

PLUME INTERNAL SPINCK CONPUTNATES, SET 1

PPOTO	٧	<b>Q</b>	Y/DEYIT	R/REXIT
u.*	(Inches)	(INCHES)		
1.4	* <b>. ? #</b> .?	3.35	∉.नहरू	1.789
14	7.151	17.50A	0.432	1.452
1.4	a.433	7.792	1,237	2,405
14	740	H.886	2.115	2.532
14	1.112	1.084	3.177	3.102
1 4	1.520	1.250	4.367	3,572
14	1.934	1.421	5.525	4,260
1.4	2.71R	1.485	7.765	4.815
1.4	3.099	1.707	8.852	4.877
1 4	3,545	1.796	10.130	5,132

PHOTO	¥	Q	X/PEYIT	RIRFXIT
NO.	(INCHES)	(INCHES)		
15	a, aga	W.350	ଟ.ଉଉଡ	1.000
15	0.363	4.587	1.037	1.677
15	0.710	0.787	2.727	2.250
15	1.056		3.617	2.780
15	1.498	1.190	4,280	3.400
15	1,056	1.337	5.587	3.820
15	2,383	1.445	6.827	4.130
15	2.855	1.519	8.157	4.340
15	3,289	1.536	9.397	4.390
15	3,712	1.581	10.605	4,517
15	4.171	1.610	11.917	4.670

### PLUME INTERNAL SHOCK COORDINATES. SET 1

Риото	y	뭐 -	Y/PEYIT	P/REXIT
N O .	(INCHES)	(INCHES)		
17	7,790	0.350	9.989	1.900
17	0.16A	0.K3#	P.480	1.800
17	7.388	0.815	1.110	2.33ø
17	Ø. 647	1.025	1.850	2,927
17	6.931	1.194	2.660	3.412
17	1.225	1.417	3.500	4.250
17	1,537	1.614	4.392	4,612
17	1,845	1.941	5.272	5.260
17	2.220	2.033	6.370	5.810
17	2.576	2,219	7.362	6.340
17	2,090	2.428	8.57¢	6.937
17	3,330	2,550	9.515	7.285

PUNTS *O.	(THCHES)	R (INCHES)	ANDERIL	R/RFXIT
***	( ) with order of the	( ) MI ME 2)		
1 B	м <b>, мер</b> е	<b>进。35</b> 0	9.000	1.000
18	m,21m	4.360	0.600	1.427
18	n.493	0.371	1.41	1.060
18	7.72A	488,0	2.180	0.960

#### PLUME INTERNAL SHOCK COORDINATES, SET 1

PFOTO	¥	th .	YZREYIT	R/RFXIT
NO.	(INCHES)	(INCHES)		
20	<i>ତ</i> ୍ତମ୍ଭ	a_35#	0.000	1,000
20	m.227	4.406	0.65M	1.160
20	0.487	M.448	1.377	1.280
20	#.717	Ø. 451	2.847	1,290
24	គ.អ8៣	a.408	2.515	1.165
20	1.032	A . 353	2.947	1.410
20	1,210	0.266	3.457	9.769
20	1.335	0.242	3.815	9.492

### PLUME INTERNAL SHOCK COOPDINATES, SET 1

ргата	¥	R	XVDEAIL	RZPFXIT
, 0 *	(INCHES)	(INCHES)		
23	രൂതത്ത	0.350	<b>ថ.្លាស</b> ា	1,770
23	0.241	4.421	7.487	1.272
23	a 470	0.537	1.370	1.535
ာဒွိ	7,795	# A3H	2,272	1,815
23	1,119	a. 663	3.197	1,495
23	477	0.A53	4.22"	1.565
23	1 .809	7.628	5.17	1.795
23 23	2.379	9.554	4.797	1.5 <sup>8</sup> 7
23	2.614	si.48m	7.47:	1.372
23	2,493	4.391	P. 26E	1.117
23	3.188	1.291	9.285	g. 832
23	3,449	4.198	9 . 43 .	0.565

PLUME INTERNAL SHOCK COOPDINATES, SET 1

PH0T0 *:0.	(INCHES)	g (TNCHES)	Y/REYIT	R/RFXIT
25 25 25 25 25 25 25	#. PA# #.154 #.578 #. 9#5 1.207 1.523	0.395 0.395 0.559 0.627 0.659 0.634	0.000 0.440 1.652 2.585 3.450 4.352 5.142	1.000 1.100 1.597 1.792 1.860 1.682 1.812
25 25 25 25	2.047 2.325 2.587 2.818	0.594 0.535 0.484 0.423	5.850 6.642 7.392 8.852	1.697 1.530 1.382 1.210

PHOTO 60.	(1/ChEs)	(INCHES)	Y/REYIT	R/RFXIT
27	2.428	2.350	a.aaa	1.000
27	2.189	∞ <b>.</b> ₹88	C.5414	1.119
27	2.427	a.435	1.229	1.242
27	0.732	437	2.092	1.247
27	968	J. 371	2.765	1.460
27	1.165	0.307	3,338	ø.E77
27	1,246	0.257	3,560	Ø.735

### PLHME INTERNAL SHOCK COORDINATES, SET 1

PHOTO	(IMCHEZ) Ā	R (Tyrhes)	X/PEYIT	R/RFXIT
29	ଡ୍କୁସମୁଡ	क <b>्र</b> कुल	୯.୩୧୯	1.000
29	0.115	8.367	0.327	1.859
29	0.329	g . <b>39</b> 5	r.940	1.130
29	9 <b>59</b> 0	9.413	1.685	1.190
29	a . P. 15	0.353	2.327	1.010
29	ด.873	g.32°	2.495	0.940

PHOTO	<b>Y</b>	<b>p</b>	X/PEYIT	R/RFXIT
rn.	(InChed)	(TNCHES)		
٦2	<i>ं</i> क्रम्	11 361	ក្នុងស្ក	1.200
45	7,174	1.358	P.514	1.722
15	ጣ , 4 ,40	4.430	1.167	1.227
32	A.742	W.49%	2.12	1.410
32	1.709	* F (A H	2,980	1.452
32	1.487	9.124	4.247	1.212
3.5	1,770	4.351	5.057	1.002
3.2	2.884	M . 296	5,725	9.845

#### PLUME INTERNAL SHOCK COOPDINATES, SET 1

PHOTO	¥	R	Y/PEYIT	R/REXIT
NO.	(INCHES)	CINCHEST		•
33	a.000	g.350	a.aac	1.000
33	0,210	P.444	0.KØ0	1.270
33	0.515	a.584	1.472	1.679
73	P . 862	0.482	2,462	1.950
33	1.191	0.714	3.402	2.240
33	1.554	B.AAD	4.430	1.967
33	1,923	O KSU	5.495	1.882
33	2.254	V.609	6.440	1.740
33	2.544	0.564	7.270	1.612
33	2,815	ล 491	P_m42	1.422
33	3 010	4.472	8.600	1.157
33	3,31A	×.325	9.483	9.927
33	3,573	7,234	10,217	й, 667

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#### PLIME INTERNAL SHOCK COOPDIMATES. SET 1

PHOTO	Y	R	Y/DEYIT	R/REXIT
** O •	(InChEd)	(TNCHES)		
39	0.200	0.351	0.00s	1.000
,¥ 9	0.234	7,439	0.457	1.252
39	2.489	Ø.595	1.397	1.672
39	7.863	2.715	2.465	2.042
39	1.214	a.774	3.467	2.212
39	1.648	0.787	4.7/7	2.250
39	2.486	0.731	6.875	2.090
39	2.765	7.661	7.920	1.898
39	3.122	9.573	8.920	1,637
<u>र 9</u>	3.53A	4.49ª	10.107	1,422
39	4.170	4.287	11.915	0.820

PLUME INTERNAL SHOCK CODEDINATES, SET 1

P+ በተበ	¥	**	<b>VANEALL</b>	PARRYTT
·n.	(IMCHES)	(INCHES)		
41	ው <b>. ማ</b> ወወ	4,35	<b>".</b> # <b>W</b> "	1.200
41	0.260	0.410	P.77"	1.197
41	14.453	A. 461	1.865	1.317
41	. 073	1. 375	2.78	1.772
41	1,359	236	3.862	A 675
41	1.505	4,136	4,300	0.392

P4010	(1/40/8/2) A	R (INCHES)	ANEALL	RZREXTT
43	n <b>. 0.0</b> 10	6.35e	ក <b>្ដុ</b> ជា <i>ដូ</i> ក្	1.000
л <b>3</b>	^.171	367	".AF7	1.747
43	7.41R	4.420	1.195	1.200
43	9.627	414	1.735	1.182
43	p. 899	9.318	2.567	и, 91 л
43	1.076	1.232	3.475	9.462
43	1,153	n 199	3,295	a.57a

PLUME INTERNAL SHOCK COORDINATES, SET 2

PUDTO	Y	<b>P</b>	ANDENIA	R/RFXIT
, U •	(INCHES)	(TMCHES)		
1	तः <b>,</b> अ <b>श</b> ल	M.35.	0.200	1.200
1	9.137	74.46M	13 <b>3 4 4 7</b>	1.315
1	a.335	a.536	a.957	1.532
1	0,538	7,465	1.537	1.900
1	9.77A	9.743	2.222	2.122
1	1.740	.P. ₽.044	2.072	2.297
1	1.487	<b>М. Я</b> 4Я	4.247	2.422
1	1.844	7.R51	5.267	2.432
1.	2,198	C.851	6.284	2.432
1	2,520	P. 824	7.200	2.370
1	2.517	7.798	8.259	2.280
1	3,966	0.76A	8.760	2.187
1	3.239	7.711	9,227	2.732
1	3,437	0.453	o a S ∪	1.865
1	3.692	0.614	10.547	1.755
1	3,013	4,556	11.180	1.500
1.	4,143	0.48m	11.937	1.372
1	4.367	11,421	12.477	1.202
1	4,490	9,380	12.83"	1.085

PHOTO	٧	¥	X/PEYIT	RZREXIT
^ O • · ·	(INCHES)	(INCHES)		
3	គ.ខេត្ត	0.369	0.082	1.200
3	C.087	ल, ३८०	P.25"	1,112
3	0.202	a,469	0.577	1.349
3	P.378	× 532	1.080	1.528
3	9.566	a.573	1.617	1.637
3	ମ.ଅନ୍ମ	9.587	2.231	1.677
3	a.917	M.556	2.622	1.50m
3	1.781	0.514	3.090	1.479
3	1.260	点。479	3.600	1.370
3	1.469	0.419	4.197	1.197
3	1.663	0.332	4.752	0.950
3	1.820	0.273	5.200	9.790

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DI UME INTERNAL SHOCK COOPDINATES, SET 2

рифто	¥	4	ANEALL	R/RFX1T
"n,	(INCHES)	(INCHES)		
5	14 <b>្សស្</b> ល	0.350	a,ano	1.000
5	0.106	a.388	0.302	1.110
5	0.217	a.428	4.620	1.222
5	P. 368	7.491	1.052	1.402
ś	ล 5ga	4.514	1.430	1.470
5	9.700	0.504	2.000	1.440
5	0.931	9.487	2.667	1.392
5	1.124	7.446	3,212	1.275
5	1.428	0.334	4.080	0.955
5	, <b>69</b> 8	274	4.565	0.782
5 5	1.648	4.255	4.71"	0.727

PLHME INTERNAL SHOCK COOPDINATES. SET 2

PHOTO	Y	R	Y/PEY1T	R/RFXIT
۸0.	(INCHES)	(INCHES)		
7	ଅ.ସେହାଫ	o_350	o and	1.499
7	0.175	7.426	(4 ⊾ 5 β *	1.217
7 7 7	0.314	a.508	a. <b>91</b> 9	1.452
	7,524	4.A17	1,497	1.750
7 7	m.744	0.682	2.125	1.950
	a.99a	w.750	2.827	2.170
7 7 7	1.253	9.784	3.580	2.240
7	1,475	0.793	4.215	2.265
7	1.688	M. AMK	4.822	2.295
	1,472	0.773	5.347	2.217
<b>7</b>	2 124	a. 766	6.272	2,197
<del>-</del> .	2.346	0.76A	6.702	2.190
7	2,549	m.749	7.282	2.140
	2,727	7.717	7,792	2,450
7 7	3.062	51.45A	8.75%	1.875
7	₹,258	0.612	9.310	1.747
	3,423	O.573	9,780	1.637
7 7	3.563	9.526	17.180	1.572
7	7.737	0.483	19.677	1.3ªP
	4.147	a 379	11.830	1.882
7 7	4.323	9.297	12.352	0.847
7	4.404	0.276	12.582	0.790

PHOTO	٧	₽	Y/PEVIT	R/RFXTT
* n •	(IMCHES)	(TAPHES)	- •	*****
9	กุกสด	# 354	n, mpa	dPites
ģ	134	4.454	4.382	1.270
9	0.227	7.563	0.647	1.297
o o	n 35a	<sup>0</sup> .461		1.607
9 9	a.513	4.731	1,722	1,890
Ó	0.669	0.888	1.465	2.390
	9.922		1.885	2.310
9 9	1.116	7.857	2.350	2.450
ý		A,032	3.190	2.577
ó	1.331	0.924	3.800	2.640
9 9	1.562	N.04F	4,462	2.727
9	2.042	Ø.994 ■ 807	5.835	2.840
9	2,229	M. 983	6.37a	2.610
9	2.465	9 . 9 R W	7.042	2.8ag
	2,720	7.971	7.7 <b>7</b> 2	2,775
9 9	2.948	M.050	a.422	2.747
	3 • 384	9.034	9.667	2.67a
9	3,594	<b>0.93</b> ∧	12,279	2,657
9	3,833	9.924	10.952	2.640
9	4.043	9.911	11.552	2.602
9	4,257	7,892	12,162	2.547
	4.487	Ø.874	12.82m	2.497
9	4.688	P.RSA	13.395	2.387
9	5,371	11.753	14.490	2.152

### PLUME INTERNAL SHOCK CHOPDINATES, SET 2

PHOTO	y	ti.	Y/#EVIT	R/REYIT
0.	(INCHES)	(INCHES)		2. 4. 11
11	ு.வறான	d <b>,35</b> 6	a ana	1,200
11	0.114	or.453	0 <b>32</b> 5	1.295
11	0,244	4.528	0.497	1.507
11	0.493	0.616	1.41	1.769
11	Ø.783	7.669	2.237	1.912
11	1.711	M.A82	2.891	1.450
11	1.592	0.640	4.547	1.430
1 1	1,985	A.619	5.385	1.779
11	2.176	w.577	6,217	1.650
11	2.484	v.535	7.097	<del>-</del>
11	2.566	0.450	7.617	1.530 1.285
11	2.036	14.377	8.387	1.777
11	3.267	9.281	9.335	
11 11	3,517	ต์ 185	10.047	0.842 0.530

PLUME INTERNAL SHOCK COOPDINATES. SET 2

PHOTO	V	Q	Y/REYIT	R/RFXIT
№0.	(INCHES)	(TNCHES)		
13	a.000	0.357	7.000	1.090
13	0.094	551	9.267	1.575
13	9,210	a, 647	# <b>* # 8</b> 8 8	1.847
13	n 399	729	1.115	2.082
13	a,566	и. <b>83</b> 2	1.617	2.377
13	9.752	0.937	2.147	2.677
13	0.940	3.980	2.685	2.ଖମମ
13	1.151	1.004	3.287	2.875
13	1,432	1.069	4.092	3.452
13	1,686	1.111	4.817	3.175
13	1.988	1.148	5.684	3.280
13	2.254	1.196	6.440	3.417
13	2.572	1.221	7.347	3.4 <sup>8</sup> 7
13	3,153	1.255	9.007	3.585
13	3,437	1.256	9.820	3.590
13	3.720	1.245	10.430	3.557
13	3,986	1.242	11.387	3.550
13	4.270	1.22ª	12.200	3.507
13	4.570	1.217	13.057	3.477
13	4,885	1 - 1 9 6	13.957	3.417
13	5,169	1.172	14.778	3,347

PHOTO	¥	A	X/PEYIT	RIPEXIT
١0.	(INCHES)	(INCHES)		
15	ଫ.ଅପ୍ୟ	0.354	P.000	1.200
15	Ø.119	°.533	P.34F	1.522
15	2.262	0.666	a.75a	1.902
15	P.479	୍ୟ ପ୍ର	1.372	2.307
15	0.729	0.02A	2.082	2.652
15	m.984	1.730	2.812	2.942
15	1.324	1.109	3.782	3,167
15	1.607	1,237	4.592	3.535
15	1.018	1,359	5.480	3.882
15	2,259	1.473	6.455	4.207
15	3.000	1.624	8.572	4,640
15	3.340	1.648	9.542	4.707
15	3,725	1.702	19.642	4.862
15	4.08A	1.724	11.680	4.925
15	4.399	1.762	12.570	5.035
15	4.795	1.790	13.700	5.115

PLIME INTERNAL SHOCK COOPDINATES. SET 2

PHOTO	¥	R	X/PEYIT	R/RFXIT
MO.	(INCHES)	(TNCHES)		
17	01.000	e.350	0.000	1.900
17	0.122	N. 459	Ø.35Ø	1.882
17	4.292	a. 824	0.835	2.355
17	0.570	0.948	1.627	2.797
17	0.806	1.061	2.302	3.032
17	1.050	1.150	3.000	3.285
17	1.326	1,253	3,790	3,580
17	1.592	1.364	4.550	3.897
17	1.866	1.472	5.332	4,205
17	2,156	1,539	6.169	4.397
17	2.434	1.623	6.955	4,637
17	2.730	1.727	7.800	4,935
17	3,034	1 808	8.670	5.165
17	3.333	1.888	9.522	5,395

PHOTO	Y	R	X/PEYIT	R/RFXIT
<b>MO.</b>	(INCHES)	(TNCHES)		
19	01.01 <b>0</b> 0	Ø.35Ø	0.000	1.200
19	4.136	4.496	Ø.394	1.990
19	0.336	a. A91	0.960	2.545
19	0.564	1.032	1.612	2.95/
19	1.117	1,291	3.192	3.690
19	1.470	1.445	4.200	4.130
19	1.816	1,592	5,190	4,547
19	2,159	1.714	6.170	4,897
19	2.493	1.920	7.122	5.200
19	3.161	1.988	9.032	5.680
19	3.626	2.086	10.360	5.960
19	3,994	2.191	11.412	6.260
19	4.421	2.257	12.632	6.450
19	5.249	2.376	14.425	6.790
19	5.404	2.435	15.440	6.957

PLUME INTERNAL SHOCK CHOODINATES. SET 2

PUOTO	<b>y</b> .	R	YZREYIT	R/RFXIT
** O .	(INCHES)	(INCHES)		
21	P. NOT .	e.350	0.000	1.900
21	0.112	ं इंद्रह	0.320	1.527
21	0.243	0.602	a.695	1.728
21	0.374	n.713	1.070	2.437
21	ø,533	Ø.798	1.522	2.280
21	0.797	0 . R47	2.020	2.420
21	a.892	0.897	2.550	2,562
21	1.143	0.045	3.265	2.700
21	1.389	0.979	3.97a	2.797
21	1,823	1.046	5 217	2.997
21	2,473	1.068	5.922	3.452
21	2.297	1.695	6.562	3.127
21	2.587	1.123	7.392	3.210
21	2,824	1.140	8.070	3.257
21	3.717	1.151	P. 427	3.290
	3.246	1.161	9.275	3.317
21	3,444	1.141	9.840	3.260
21 21	3,669	1.129	10.482	3.225

ридта	¥	q	Y/PEYIT	<b>P/REXIT</b>
· 0 .	(INCHES)	(INCHES)		
25	៤.៤៧៤	11.75	12 gr (317	1.704
25	7.18B	of. 617	.537	1.752
25	0.289	1.716	5.825	2.245
25	Ø.466	3 924	1.332	2.297
25 25	0.645	a_891	1.042	2.545
2 <b>5</b>	n.864	. 951	2.467	2.717
25	1.073	4,004	3.065	2.444
25	1.294	1.039	3.685	2.957
25	1.536	1.078	4,387	3 18A
25	1.760	1.100	5.030	3,167
25	1 496	1,137	5.7∅?	3,247
25	2.203	1.16	A 295	3.327
25	2,557	1,194	<b>フ・</b> マッち	3.41%
25	2.882	1,227	9,235	3.505
25	3,157	1,216	9.047	3.480
2 <b>5</b>	3,430	1.204	9.025	3,440

PLIME INTERNAL SHOCK COOPDINATES, SET 2

PHOTO	¥	<del>Q</del>	Y/PEYIT	R/REXIT
50.	(INCHES)	(TNOHES)		
27	രൂത്യം	10 _ 350	0 000	1.000
27	4,163	0.604	9.46F	1,725
27	m.339	H.716	0.97a	2.045
27	0.524	A 992	1.497	5,295
27	#.819	n A89	2.340	2,540
27	1.213	0.974	3,465	2.782
27	1,599	1.044	4.570	2.982
27	2.243	1.093	5,837	3.122
<b>27</b>	2,526	1.124	7.217	3.212
27	2.00A	1.142	A . 307	3.242
2 <b>7</b>	3,231	1.126	9.232	3.217
27	3.535	1.114	10.100	3.182
27	3.958	1.082	11.307	3.392
クフ	4.315	1.746	12.327	2.987
27	4.665	1.024	13.327	2.925
27	4.934	7.077	14.097	2.792

PHOTO	Y	R	Y/REVIT	R/REVIT
8× O 🔹	(INCHES)	(INCHES)	<del>- ;</del>	
31	0,000	W.350	a aga	1.200
31	7,104	0.654	0.297	1.870
31	0.252	M.804	W.728	2.297
31	0.437	0.051	1.250	2.717
31	0.684	1.068	1.955	3.952
31	1.025	1.259	2,922	3.597
31	1.295	1.388	3.790	3.945
31	1,581	1.5gA	4.517	4.397
31	1.942	1.641	5.5 <u>5</u> c	4.687
31	2,292	1.754	A.55a	5.012
71	2 479	1 869	7.627	5.340
34	3.127	1.088	4.647	5.690
31	4.591	2.342	13.117	6.692
31	5 716	2,418	14.137	6.919
31	5.361	2.457	15.317	7.029

### PLUME INTERNAL SHOCK CONTINUES, SET 2

PHOTO	¥	fa)	<b>V/#FV]T</b>	R/RFKIT
	(INCHES)	(INCHES)		
34	9.590	A . <b>3</b> 5	0.000	1.000
34	7,157	9.514	.437	1,467
34	0.430	7,688	1,142	1.965
4.6	4.470	7.779	1.047	2,225
7.4	0,934	η . D In -4	2.670	2.427
34	1.232	0.467	3.52	2,457
34	1.54A	1.879	4.422	2,512
34	2.137	" . K77	6.185	2.505
34°	2.508	0.844	7.165	2.417
3.4	2.884	U. R29	8.249	2.367
*4	7.16A	× 780	9 445	2,227
34	3,460	៧.718	9,912	2.452
3.4	3. P74	0.850	10.870	1.682
34	4.134	9.578	11.512	1.652
34	4,436	4.494	12.675	1.417
3.4	4.784	0.387	13.440	1.145

PLUME INTERNAL SUBCK COMPRINATES. SET 2

P - n T n	<b>v</b>	Q	VAREVIT	R/RFXIT
. 0.	(INCHES)	CINCHES) 📡		
33	a.car	7.35/	N. P. N. CA	1.000
43	0.102	0.575	0.292	1.642
33	a.34#	2.716	c: • 972	2.945
33	9.433	ะ ัค1์3	1.813	2.322
33	7.956	M.876	2.732	2.502
73	1.332	o 885	3.805	2.527
33	1.704	3.907	4.870	2.502
33	2.101	0.014	6.002	2.612
33	2.474	9.889	7.070	2.540
43	3,005	2.781	P.842	2.232
33	3.482	Ø.723	0.050	2.365
33	T , 868	7.661	11.052	1.890
33	4.226	7.55	12.775	1.572
33	4.518	9.450	12.91"	1.312

PHOTO	¥	R	Y/DEYIT	RZREXIT
١0.	(InCHÉe)	CINCHESI		
37	ଖ.୯୫୦	Ø.35%	Ø . 000	1.300
37	0.141	Ø.532	0.402	1.520
47	0.351	0.630	1.402	1.890
3 <b>7</b>	9.570	W.714	1.632	2.740
37	4,85排	A. 766	2.439	2.193
<b>37</b>	1.113	0.756	3.182	2.160
77	1.660	0.714	4.745	2.040
<b>37</b>	2.014	M . A81	56.760	1.945
37	9,379	11.63"	4. <del>7</del> 9%	1. 400
77	2.421	9.563	7.490	1.677
<b>37</b>	2,457	14.49.1	P. 162	1.470
<7	3.153	4.437	0.41	1.250
37.	3.424	a 370	9.782	1.257

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DEHME INTERNAL SHOCK CONFOINATES. SET 2

PHOTO	٧	R	Y/PEVIT	RZPEXIT
NO.	(INCHES)	(INCHES)		
38	c.200	0.35 <sup>d</sup>	ؕ000	1.000
38	0.146	0.405	Ø.417	1.730
38	a.399	J. 767	1.140	2.192
38	4,450	a . 864	1.882	2.470
78	0.977	લ વસુષ	2.792	2.680
38	1.262	# 0 K3	ጜ <sub>•</sub> ሉ(አፍ	2.810
38	1.603	1.015	4.580	2.910
38	1.879	1.053	5,370	3.012
38	2.257	1.374	6.450	3.27₽
	2,600	1,454	7 427	3,017
<b>78 8</b>	3,230	1.018	9.230	2.910
38	7,591	<b>π.ο7</b> 3	10.260	2.780
*8	3 044	e	11,27"	2.667
3.5 3.5	4,340	<b>ក្</b> រុំ គម្ពីគ	12.400	2.537
	4.732	0.815	13.52	2.330
₹8 38	5,050	4.724	14.427	2.475

PENTO NO.	(IMCHEG) A	P (INCHES)	XVEEXIT	R/RFXIT
43	C.296	11.35°	ુ.ભγેલ	1.089
43	n 494	p = 440	1,095	1.57N
43	1 . 35	0.465	2.957	1.730
43	1.410	4.661	4.027	1.397
43	2.637	H 459	7.535	1.442
43	4.136	4.455	11.817	1.872

PLUME INTERNAL SHOCK COORDINATES. SET 2

PUNTO	×	ts	Y/DEVIT	RZREXIT
**0.	(INCHER)	(TNCHES)		
44	С.ИВИ	7, <b>35</b> 3	0.000	1.000
44	0.127	M. 613	4.362	1.752
44	4.322	2.876	0.922	2.502
A 4	0.602	1.166	1.720	3,332
44	0.882	1.506	2.52%	4.3/2
44	1.071	1.824	3.060	5,212
44	1.362	9.157	3,892	6.162
44	1.589	2.475	4.542	7.472
44	1.842	2.773	5.262	7.922
44	2,143	2,044	6.122	8.412
44	2.441	3.234	6.275	9.240
44	2.712	3.455	7.752	9.872
44	3,740	3.761	8.712	10.745
44	3,339	4.940	9.547	11.542
44	3.605	4.253	10.300	12.152
44	3.797	4.757	10.850	12.450

PLUME INTERNAL SHOCK COORDINATES. SET ?

PHOTO	*	Ħ	YZREYT	PAREXIT
<b>\0.</b>	(INCHES)	(TACHES)		
46	គ.គគ្គ	0.350	0.000	1.000
46	四.128	P. A29	n,365	1.797
46	0.277	0.83M	7.792	2.372
46	* .47#	1.025	1.365	2.930
46	ツ。在特易	1.201	1.96%	3,432
46	a. P72	1.352	2.430	3.862
4.5	1.959	1.555	3.425	4.442
46	1.288	1.710	3.480	4.912
46	1.496	1.885	4.275	5.385
46	1.720	2.074	4.015	5,925
46	2.005	2.263	5.730	6.465

### PLUME INTERVAL SHOCK CONROLMATES, SET 2

PHOTO	¥	· 🙀	X/REVIT	R	/RFXTT
10.	(INCHES)	CINCHESI			
48	0. 700	₩ <b>.35</b> %		•	1.000
48	0.194	<b>% 590</b>	4.297	**	1.712
48	0.290	e.759	2.830	*	2.170
48	0.694	1.249	1.990		3,567
48	9.945	1.472	2.700		4.205
48	1.242	1.683	3,55A		4.810
48	1.515	2.023	4.327		5.780
48	1.782	2.262	E. 492		6.462
48	2.784	2.432	5,955		6.947
48	2:376	2.767	6.790		7.905

#### PLUME INTERNAL SHOCK COOPDINATES. SET 2

	5,00	_		D 100
DHOTO	Y	<b>R</b>	Y/PEXIT	RIREXIT
мо.	(INCHES)	(INCHES)		
50	0.000	0.350	0.000	1.000
50	0.104	m. 647	0.297	1.850
50	0.259	Ø.872	0.740	2.492
5 Ø	2.440	1.644	1.257	2,982
50	Ø . 602	1.220	1.720	3.485
50	1.201	1.588	2.860	4.537
50	1,231	1.785	3.517	5.100
50	1,474	1,998	4.212	5.710
# Ø	1.736	2.200	4.967	6.312
50	1,978	2.434	5.452	6,955
50	2.253	2.423	6.437	7.495
50	2.555	2.R24	7.307	8.067
F Ø	2.F24	2.982	8.077	8.520

DEHME INTERNAL SHOCK CONDINATES, BET &

ው፣ ሶቴክ	¥	, ,	Y/OFVIT	AZREYIT
. u•	(Labele)	(INCHES)		
1	ଅନୁ ଅୟାଳ	1,35 *	( . # W ?	1,000
1	4.100	A . 6 Q K	0.397	1.779
3	7.713	11.717	C.61	2.447
1	4,334	7.794	7°055	2.289
1	0,535	1,002	1.527	2.577
1	17.734	9.975	2.290	2.795
1	0.927	1.035	2.450	2.457
1	1.151	1 1194	3.287	3.137
1	1.389	1.151	7.067	3.287
ĩ	1.794	1.214	4.867	3.483
1	1,989	1.280	5.682	3.657
•	2,265	1.337	A. 470	3.82g
i	2,523	1,363	7.297	* *
1	2.124	1.397	9 272	3,895
•	3,154	1.431		3,992
•	3,433		9,912	4.990
1		1.452	0.407	4.147
1	3.769	1.456	10.767	4.160
1	4.760	1,482	11.60%	4,235
1	4,375	1.586	12.500	4.3mg
1	4.703	1.531	13.437	4.375

PUNTO	<b>Y</b>	Þ	Y/PEYIT	RZREXTT
,0,	(INCHES)	(INCHES)	- 4.	
3 3	7, 790	9,359	e_eun	1.029
3	M . 1 MA	લ <b>ે≅</b> વ9	₽.31c	1.570
3	0.31A	14.719	0.007	2.737
3 3	9.567	# RAK	1.624	2.497
	Ø.976	0 <b>02</b> 0	2.542	2.627
. 3	1,484	1.032	4.240	2.950
3 3	1.851	1.067	5.287	3.750
3	2,281	1.091	A. 287	3.117
3	2.551	1,113	7.287	3.180
3	3.025	1.106	R.347	3.169
3	3,307	1.1/2	9.450	3.147
3	3.720	1.095	10.430	3.130
3 3	4.763	1.073	11.412	3.765
3	4.476	1,939	12.567	2.97%

PLHME INTERNAL SHOCK COOPDINATES, SET 3

PH0T0 NO.	(INCHES)	a (TNCHPS)	ANDEALL	R/RFXTT
555555555	0.000 0.261 0.572 0.901 1.241 1.614 2.708 2.809 2.809	7.35° 4.734 6.962 4.696 1.758 1.214 1.271 1.298	0.000 0.745 1.635 2.545 4.612 5.735 6.025 9.195	1.400 2.997 2.577 2.845 3.102 3.307 3.467 3.632 3.707
5	3,569	1.389	12.197	3.970

P4010 MO.	(INCHES)	ং হ	V/REVIT	R/RFXIT
7 7 7 7 7 7 7 7	0.000 0.133 0.319 0.588 0.904 1.234 1.575 1.514 2.583 3.732 3.748	9.35% 9.4584 9.737 9.9584 9.9581 9.953 9.923	0.900 0.380 0.912 1.680 2.582 3.525 4.500 5.470 7.380 9.620 10.710	1.307 1.307 1.677 2.392 2.572 2.722 2.810 2.737 2.560

### PLUME INTERNAL SHOCK COOPDINATES, SET 3

₽4010 NO.	(INCHES)	R (TNCHES)	X/PEY1T	R/RFXIT
9	0.000	e.35A	M. MOC	1.270
ģ	ø.357	9.535	1.020	1.53%
ģ	a.637	a.608 .	1.820	1.737
ý	9,932	5.A3A	2.662	1.417
ģ	1.272	2.601	3.635	1.717
ý	1.601	4.549	4.575	1.570
ģ	2,213	0.388	6.322	1.110
9	2.690	0.256	7.430	0.732

PLUME INTERNAL SHOCK COOPDINATES, SET 3

PHOTO	<b>v</b>	ន	Y/REYIT	R/RFXIT
13 <b>0</b> •	(INCHES)	(INCHES)		
11	a.000	9.35C	e.ene	1.000
11	9.157	Ø.462	C.447	1.320
1.1	Ø.374	4.566	1.070	1.617
11	0.432	W 433	1.805	1.810
11	1,175	4.628	3.357	1.795
11	1.469	9.602	4.197	1.728
11	1.725	9.563	4.930	1.697
11	2,027	7.504	5,792	1.448
11	2.356	e.397	6.732	1.135
11	2.709	0.291	7.746	0.832
11	2.809	0.251	A. #22	0.717

PUOTO	¥	<b>Q</b>	Y/PEYIT	R/RFXIT
MO.	(INCHES)	(TUCHES)		
13	ଉ • ମଧାର	W.350	ଜ.୯୭୬	1.200
13	0.238	4.577	0.68°	1.647
13	a.47a	a.735	1.342	2.120
13	7.752	3 R67	2.15%	2.477
13	1.867	9.976	3.050	2.790
13	1.375	1.242	3,930	2.977
1.3	1.723	1,976	4,922	3,075
1.3	2,148	1,121	5,852	3.202
13	2.745	1.137	7.842	3.247
13	3,130	1.144	P. 979	3.278
13	3.440	1.133	9.837	3,237
1.3	3,779	1.112	17.797	3.177
13	4,137	1.574	11.820	3.470
13	4.798	a 95 a	13.710	2,715
13	5,189	A 899	14.825	2.570
1.3	5.541	я <b>,</b> я40	15.832	2.340
13	5.755	c.742	16.442	2.120

PLUME INTERNAL SHOCK CONPDINATES, SET 3

PHOTO	Y	Þ	Y/PEYIT	R/RFXIT
40.	(INCHES)	(TNCHES)		
15	e.eae	0.354	0.000	1.200
15	0.262	0 52A	c.747	1.510
15	n.570	V.689	1.630	1.967
15	01.920	o.791	2.627	2.260
	1.274	01.853	3.640	2.437
15	-	05.883	4.732	2.522
15	1.454	•	5,647	2.560
15	1.977	7,89A	6.829	2.492
15	2.387	7.872		2.440
15	2.761	Ø.854	7.887	
15	3,100	U.A1X	A, A57	2.322
15	3.43A	ត.្តមិន	10.395	1.952
15	3,978	0.621	11.365	1.775
15	4.290	n.52h	12.257	1.507
	-	-	13.147	1.230
15	4.602	0.437	14.377	g.782
15	5.032	0.274	T# # 2//	Ø E

PHOTO	×	R	ANEALL	R/REXIT
MO.	(INCHES)	(TNCHES)		
19	ଉ . ଉ ହା ଉ	0.350	ଡ଼ . ଉଷ୍ଟ	1.000
19	0.202	A 450	P.577	1.295
19	0.441	a.520	. 1.26a	1.485
19	ማ የፀዳ	P.521	2.302	1.487
19	1.092	a 49n	3.120	1.400
19	1.429	4.395	4.082	1.127
19	1.768	Ø.297	5.052	0.850
19	2.027	9.174	5.772	0.497

### PLHME INTERNAL SHOCK CHOPDINATES, SET 3

PHOTO	¥	R	Y/REVIT	RZREXIT
NO .	(INCHES)	(INCHES)		
21	a _ a g a	M.350	ଡ,ଡନ୍ଟ	1.000
21	P.188	M. 461	Ø.537	1.317
21	m.877	ម្នា. 696	2,505	1.987
21	1,245	m.764	3,557	2.182
21	1.689	M.801	4.825	2.287
21	2.127	0.768	6.077	2.195
21	2.596	4.723	7.417	2.065
21	7,179	8.453	0,082	1,865
21	3.594	n.563	10.267	1.607
21	7, 850	0.462	11.72	1.320

PHOTO	¥	R	X/PEYIT	R/RFXIT
*O.	(INCHES)	(INCHES)		
23	ን. ለህጠ	8. <b>35</b> 0	W. #WE	1.000
23	a, 255	4.431	0.73c	1.230
23	0.535	0.476	1.530	1.360
23	1.931	0.427	2.945	1.220
23	1.327	× 359	3.792	1.025
23	1.565	4.277	4.472	0.792

### PLUME INTERNAL SHOCK COORDINATES, SET 3

PH()T()	Y	Þ	X/REXIT	R/RFX1T
١٥.	(InCHEs)	(INCHES)		
25	ଉ.୍ଟ୍ୟୁ	0.350	a . maa	1.000
25	n.297	0.543	a.85a	1.552
25	0.691	0.469	-1.717	1.912
25	1.151	0.807	3,287	2,305
25	1,537	a.867	4.392	2.477
25	1.931	M. A91	5.517	2,545
25	2.295	Ø.873	6.557	2.495
25	2.729	a .853	7,770	2.437
25	3.149	a.786	8.997	2.245
25	3,423	Ø.771	9.780	2,292
25	3,695	0.725	10.557	2.072
25	3.986	M . K4K	11.387	1.845
25	4.340	a.556	12.400	1.587
25	4.514	N.508	12.897	1.452

#### PLIME INTERNAL SHOCK COORDINATES, SET 3

PHOTO	×	R	X/REXIT	R/RFXIT
м0.	(INCHES)	(INCHES)		
27	<b>л.</b> Ж <b>а</b>	0.350	a. 48a	1.000
27	0.613	m.714	1.752	2.040
27	1,025	m.A5A	2.930	2.445
27	1.487	p. 941	4.25	2.690
27	1.959	9.969	5,597	2.747
27	2.443	9.973	6.980	2.780
27	2.933	0.948	8.380	2.707
27	3.219	a.896	9.197	2.560
27	3.636	Ø.831	10.387	2.375
27	4.039	4.754	11,540	2.160
27	4.450	4.486	12.742	1.969
27	4. A54	7.597	13,870	1.705
27	5.550	0.332	15.857	0.950

PLUME INTERNAL SHOCK COORDINATES, SET 3

PHOTO	¥	R	MANERIL	R/RFXIT
NO.	(INCHES)	(TNCHES)		
29	ଗ.୍ଡମ୍ଡ	W.350	<i>ក</i> ្សាទា	1,000
29	M. 241	a. A15	Ø.490	1.757
ρģ	0.465	n. 788	1.334	2,252
29	749	n 948	2.140	2.707
29	1.166	1.178	3.332	3.365
29	1.471	1.406	4.202	4.017
29	1.809	1.577	5.179	4.505
29	2.200	1.706	6.312	4,875
29	2.662	1.856	7.605	5.302
		2.005	P 005	5.727
29	3,117	•	•	6.197
29	3.549	2.169	10.140	
29	4,126	2.300	11.790	6.572

PHOTO	<b>y</b>	R	X/BEXIT	R/RFXIT
MO.	(INCHES)	(TNCHES)		
31	ଜା " ଜାଷାଷ	0.350	a.000	1.000
31	0.203	n.598	Ø.580	1.707
31	0.413	u 815	.1.182	2.327
31	a.662	1.051	1.892	3.002
31	a,952	1.263	2.723	3.610
-	1.244	1.488	3,555	4.230
31	1.569	1.734	4,482	4.955
31		2.136	6.422	6.102
31	2.318		7.677	6.610
31	2.687	2.313	Ř. Ř67	7,135
31	3.104	2,497	•	
31	4.01A	2.854	11.480	8.155
31	4,331	2.964	12.375	8.457

OTOHO	У	H	X/REYIT	R/RFXIT
MA.	(INCHES)	(INCHES)		·
33	क •ुक्काला	0.350	ស•្កាធ្ក	1.400
.43	2,229	~.PV7	0.627	2.305
7.3	Ø.465	1.455	1.330	3.015
.* 3	B.692	1,293	1.977	3.695
33	7.951	1.545	2.717	4,415
₹3	1.262	1.784	3.605	5.297
33	1.585	1.981	4.530	5.660
33	1.920	2.155	5.485	6.157
33	2.267	2.411	6.477	6.890
73	2.635	2.565	7.527	7.327
33	3,028	2.836	8.652	8.102
*3	3.286	2.935	9.387	8.385

#### PLHME INTERNAL SHOCK COOPDINATES, SET 3

PIJTO	У	E ·	X/DEVIT	R/REXIT
∿0.	(INCHES)	(INCHES)		
₹6	ତ , ଏହାଡ	प <b>ृर</b> %⊘	· · · · · · · · · · · · · · · · · · ·	1.⊽ወЯ
36	a.227	A . 81 7	4.647	2.315
36	0.535	1.141	1.527	3.260
₹6	4.783	1.304	2,237	3,900
36	1,453	1 . 646	3.007	4.702
36	1.428	1.077	4.080	5.362
76	1,72ª	2.764	4.937	5.942
₹6	2.044	2.324	B A4	6.445
36	2,393	2.475	A.F37	7.572
₹6	2.740	2.647	7.827	7.562
36	3,648	2.818	8.707	8.152

PICHME INTERNAL SHOCK COOPDINATES, SET 4

PLOTE	Y	ζ.	Y/HEYIT	RZPFXTT
, . l.j. *	(INChes)	CINCHIST		
~ <b>6</b>	n ya	43 <b>- 17 89</b> 43	ស.្សស្ក	1.060
H- K	".197	2. AMA	(A. F. 6.2	1.725
h &	×,454	6.7.7	1.297	2.185
56	7.766	a.a.7	2.194	2.305
ፍ <sub>ራ</sub>	1.138	6.059	3.252	2.455
56	1.552	ក្នុងបុខ	4.435	2.545
56	1.064	a. 913	F. 612	2.607
56	2.443	୍ୟ ପ୍ରତ	A, OBO	2.578
56	2.º31	⊕ "β5A	F. 093	2.452
56	3,248		9,280	2,352
E 6	3.495	757	10.700	2.162
56	7.958	A.716	11.317	2.145
56	4.264	0.429	12.182	1.797

PHOTO	×	R	X/PEYIT	R/RFXIT
V O *	(INCHES)	(INCHES)		
# 8	o. 400	Ø.35Ø	ଜ.ଜାହାଟ	1,000
<del>5</del> 8	0.137	0.560	M.392	1.600
ក្ន	0.305	a.755	Ø.872	2.157
58	0.573	488,5	1.637	2.537
58	0.841	0.971	2.402	2.775
5.8	1.161	1.040	3.317	2.972
<b>58</b>	1.618	1.140	4.622	3.257
58	2.047	1.231	5.85¢	3,517
58	2.446	1.280	6.987	3,657
58	2.P71	1.318	8,202	3,765
58	3.684	1.35	10.525	3.857
58	4.167	1.333	11.005	3.810
5.8	4,622	1.297	13,205	3.705
58	5.335	1.253	15.242	3.580
۲.8	5.688	1.225	16.252	3.500
58	6.19R	1.172	17.452	3.347
8.4	6.762	1.128	18.177	3.222

PHOTO	y	R	X/PEYIT	R/RFXIT
<b>NO.</b>	(INCHES)	(INCHES)		
10	o , 000	6.357	្ធ.⊍%⇔	1.200
69	14.17A	0.422	M.507	1.777
69	0.43D	M.R29	1.227	2.370
K Ø	0.R61	m.987	2.460	2.820
60	1.699	1,199	4,597	3,425
60	2.075	1.705	5.027	3.730
60	2.579	1.379	7.367	3.940
60	3.184	1.443	A.867	4.122
49	3.650	1,479	10.430	4.225
60	4,262	1,492	12.177	4,262
60	4.787	1.483	13.477	4.237

#### PLUME INTERNAL SHOCK COOPDINATES, SET 4

PHOTO	y	R	YZREYIT	R/RFXIT
*O.	(INCHES)	(INCHES)		
45	ଲ <b>୍ଜ୍ୟର</b>	0.354	ଡ଼.୭୫୩	1.200
42	2,213	7.717	9.610	2.427
٧S	0.577	N. 92W	1.647	2.630
<b>£</b> 2	1.708	1.094	2.884	3.125
65	1,463	1,221	4.180	3.498
42	1.911	1.345	5.460	3.842
<b>4</b> 2	2,443	1.469	6.980	4.197
65	2.965	1.553	P.479	4,437
45	3.566	1.582	10.190	4.520
45	4,089	1.622	11.682	4.635
65	4.642	1.662	13.262	4.747
<b>45</b>	5,393	1,452	15.41%	4.720

PHOTO	X	R	Y/REXIT	R/RFX1T
<b>NO.</b>	(INCHES)	(TNCHES)		
72	a.aga	4.350	ଜ.ଜାଜ୍ନ	1.000
72	0.105	M.617	0.300	1.762
72	9.273	Ø . 755	Ø.78ø	2.157
72	0.506	a 890	1.445	2,542
72	7.749	Ø 981	2.140	2.802
72	1.036	1.063	2.960	3,037
72	1.327	1,141	3,792	3.260
72	1.673	1.214	4.780	3,467
72	2.054	1.268	5.A7Ø	3.622
72	2.523	1.342	7.210	3,835
72	3,395	1.410	9.700	4.030
72	3.931	1.422	11.232	4.062
72	4.333	1.415	12.380	4.042
	•	1.387	14.679	3.962
72	5,134	<del>-</del>	- ·	4.022
72	5.610	1.498	16.030	4.000

### PLUME INTERNAL SHOPK COOPDINATES. SET 4

PHOTO	Y	P	X/PEYIT	R/RFXIT
мО.	(INCHES)	(INCHES)		
74	а, «ра	m.35 A	a.080	1.000
74	0.182	0.560	V.52°	1.600
74	W.398	0.703	1.137	2.007
74	790	v.794	2.290	2.267
74	1.244	0.83A	2.982	2.390
74	1.443	3.840	4.122	2.425
74	1,925	W. 853	5.500	2,437
74	2.495	A.811	6.272	2.317
74	2.857	0.752	8.162	2.177
74	3.375	4.702	0.642	2.805
74	3.773	0.627	10.780	1.792
74	4.240	n. 518	12.140	1.480
74	4.688	* 388	13,395	1.110
74	5.107	2,253	14.592	9.722

PLUME INTERNAL SHOCK COOPDINATES. SET 4

PENTO	¥	ħ	Y/PFYIT	R/RFYIT
.0.	(INCHEC)	(INCHES)		
76	។.ខេស្ស	7.350	ሮ <sub>ቁ</sub> መውን	1.000
76	0.133	a. 642	0.38°	1.559
76	7.266	Ø . 651	Ø.76¢	1,862
76	a 500	o Ann	1.430	2.317
76	0.848	11.912	2.422	2.645
76	1.288	a OHO	3.680	2.825
76	1.724	1,035	4.932	2.957
76	2.157	1.078	6.162	3.080
76	2.646	1,136	7,560	3.245
76	1,289	1,112	9.167	3,177
76	3.801	1.067	10.86a	3.450
76	4,691	9.984	13.402	2.890

PPOTO	٧	R	X/PEY1T	RZREXIT
"D.	(INCHES)	(INCHES)		
8 <b>2</b>	គ.១៨៨	a.350	e. • • • • •	1.000
a 2	0.114	9. KZ4	Ø.325	1.797
H2	a.267	W.761	0.762	2.175
ь <b>5</b>	4,507	7.041	1.450	2.687
υŠ	7.787	1.695	2.250	3.130
5ء	1.165	1.285	3.334	3.672
8 <b>ટ</b>	1.610	1.435	4.600	4.199
9%	2.986	1.568	5.960	4.499
ج ع	2.565	1.690	7.33a	4.827
6.5	3,101	1.778	8 . P 6 0	5. ₹ <sup>8</sup> Ø
<u> </u>	3,703	1.851	16.588	5.290
8·2	4.641	1.927	13.260	5.45g
နှံ့	5 / 193	1 925	14 552	5,500

PLUME INTERNAL SUBCK GOODDINATES, SET 4

PHOTO	v	<b>r</b> )	Y/NEVIT	RIREYIT
M'O .	(INCHÉS)	(TNCHES)		
<i>\$</i> 4	គា.្ធស្ព	4,35×	<b>ា. ១៨</b> ព	1.200
F 4	<b>7.154</b>	a <b>.</b> 584	0.447	1.667
я 4	M.329	0.733	ઝ.94લ	2.110
F 4	7,615	ห_้ดข2	1.757	2.547
F 4	0.948	W. 974	2.717	2.782
84	1.422	1.081	4.962	3.487
A4	1 483	1.158	5,380	3.337
P.4	2 247	1,199	6.420	3.400
P.4	2.635	1.222	7.530	3.492
A 4	3,032	1.25*	F.662	3.640
P 4	4.112	1.246	11.750	3.56v
¥ <b>4</b>	4,631	1.200	13.232	3.427
P.4	5.195	4.444	14.842	3.270
F 4	5 . KAA	1.1.16	14.230	3.160

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## PLUME INTERNAL SHOCK COORDINATES. SET 4

<b>₩</b> 90T0	¥	p.	V/REVIT	RZREXIT
MO.	(INCHES)	(INCHES)		
۶6	0.000	и <b>.35</b> 0	a.000	1.070
F 6	7.136	0.587	2.387	1.677
46	9.321	9.753	0.917	2.152
86	7.454	0,000	1.867	2.597
R.6	0.976	1.035	2.787	2.957
86	1.385	1.172	3.957	3.350
86	1,916	1,255	5,190	3,585
F6	2.318	1.365	6.622	3.400
86	2.796	1.449	7,987	4.140
86	3,300	1.49	9.427	4,257
6 م	3.788	1.513	10.822	4.322
₽6	4,284	1.539	12.240	4.397
86	4,763	1,557	13.607	4,450

PHOTO	٧	<b>u</b>	Y/PFYIT	R/REXIT
MO.	(INCHES)	(TACHES)		
e 8	ø, °øø	4,354	C.Cu?	1.300
F 8	0.122	1.514	0.350	1.467
អ <b>ុ</b>	0.360	0.704	1.055	2.412
a B	1.159	9.078	7.307	2.795
c B	1.678	1 . 063	4.795	3.037
4 <b>8</b>	2.175	1.134	4.215	3.240
⊬.8	2,635	1.178	7,530	3,345
អង្គ	7,169	1.220	9.055	3.427
A. <b>8</b> .	3.717	1.161	10.620	3,317
<b>a a</b>	4.231	1.124	12.087	3,212
P <b>8</b>	4.928	1 . M R R	14.089	3.197

PLUME INTERNAL SHOCK COORDINATES, SET 4

PHOTO	¥	a	Y/PFYIT	RIREXIT
MD.	(INCHES)	(INCHES)	•	
OB	<i>ପ</i> ୁ ଉ <b>ଉ</b> ଉ	a <b>,35</b> 4	2.000	1.770
90	0.165	7.501	2.472	1.432
o ga	0.366	A . 668	1.045	1.910
9.0	0.473	P.771	1.922	2.272
9 Ø	a.982	9 . Aj 7	2.805	2.335
c a	1.341	M. 95 1	3.832	2.427
90	1.814	A . 864	5.482	2.465
GÄ	2,234	DI . 842	6,382	2.445
90	3.113	a.767	8.895	2.192
90	3,407	7.721	9,735	2.1150
90	3,795	3,659	12,585	1.8 <sup>8</sup> 2
٥٥.	4.045	4.571	11.557	1.632
90	4.490	4.508	12.837	1.452